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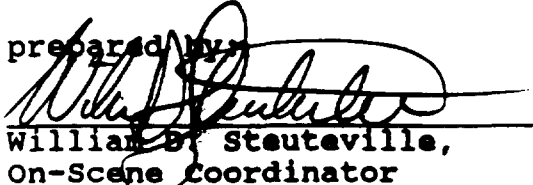


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**SITE ASSESSMENT And EVALUATION  
CERRO METALS SITE  
Bellefonte, Pennsylvania**

This Site Assessment and Evaluation (Assessment) pertains to the Cerro Metals Site (Site) in Bellefonte, Pennsylvania. The Assessment was performed by the United States Environmental Protection Agency (EPA) with the assistance of the Pennsylvania Department of Environmental Resources (PADER) and the guidance of the Pennsylvania Fish and Boat Commission (PAFBC) and the United States Fish and Wildlife Service (USFWS). The Cerro Metals Products Company (Cerro) participated cooperatively in assessment activities and provided access and information. PADER, PAFBC, USFWS and Cerro provided input to EPA throughout the Assessment. However, the conclusions and recommendations in the Assessment are EPA's. Other involved parties may or may not share all EPA's conclusions. EPA thanks PADER, PAFBC, USFWS and Cerro for their participation.

prepared by:

  
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Date

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**I. ISSUE**

Between February and July 1993, the Environmental Protection Agency (EPA) conducted inspection and assessment activities pursuant to Section 104(b) of the Comprehensive Environmental Response Compensation and Liability Act, as amended (CERCLA), Section 311 of the Federal Water Pollution Control Act Amendments of 1972, and the National Contingency Plan (NCP). The Assessment was undertaken in response to concerns for PCB contamination in stream sediments. The Assessment identified elevated concentrations of PCB, lead, copper and zinc, releases of PCB, lead, copper and zinc and ongoing discharges of PCB, lead, copper and zinc into Logan Branch, among other environmental concerns. Some of these problems have been addressed, some are currently being addressed and others need to be addressed. Of the issues to be addressed, a few require urgent attention.

**II. SITE HISTORY**

The Site is located on Logan Branch near its confluence with Spring Creek in Bellefonte, Pennsylvania. The brass works (Facility or Plant) at the Cerro Metals Site is owned and operated by Cerro Metals Products, Co. The Facility is operated as a brass casting and processing plant. The Site has been the location of industrial activity since the mid-19th century. EPA has received several incident notification reports regarding the Site. In 1991, a sulfuric acid spill at the Facility caused a significant fish kill on Logan Branch. Several investigations have studied PCB problems at the Site and PCB concentrations in sediments and fish in Logan Branch. These investigations documented levels of PCBs in fish tissue, stream sediments, soils and seepage at the Site. At present, the Site is subject to corrective measures and investigation pursuant to the Pennsylvania Clean Streams Law and other Commonwealth laws and regulations under the jurisdiction and oversight of PADER. PADER is working with Cerro to address environmental issues. PADER is pursuing regulatory responsibilities and is the lead environmental regulatory agency for the Site. EPA is supporting PADER and other agencies at the Site.

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### III. SITE ASSESSMENT ACTIVITIES

In February, 1993, the EPA Superfund Removal Branch undertook a Site Assessment at the request of the Pennsylvania Fish and Boat Commission. In February, 1993, the EPA On-Scene Coordinator (OSC) and EPA contractual personnel from the Roy F. Weston Technical Assistance Team (TAT) met with officials of the PAFBC, PADER, the USFWS and Cerro before beginning inspection/assessment activities. These parties continued to participate in Site Assessment activities. EPA held discussions with, and solicited input and information from these parties. EPA invited, and Cerro welcomed, the involvement of the PADER, PAFBC and USFWS personnel in inspection/assessment activities on Cerro property. Officials from PADER and PAFBC took an active role in field activities throughout the Assessment.

The February inspection included a Spill Prevention Containment and Countermeasures (SPCC) inspection of Cerro's oil handling facilities and an inspection of Cerro's Facility and operations. Two oil/water samples were collected and analyzed for PCBs. Snow cover and ice prevented further Site assessment and sampling.

Following the February trip, EPA notified Cerro of problems and issues identified during the Site inspection (See March 25, 1993 letter to Mr. Hendrick, Attachment I). EPA prepared a draft sampling plan which was sent to each of the involved parties for review and comment. Comments were received from the parties and the sampling plan was amended and finalized (See Sampling Plan, Attachment II).

In April, 1993, EPA returned to the Site to complete the Assessment and implement the sampling plan. However, high water in Logan Branch prevented safe access to the stream to collect needed sediment samples. EPA did collect 18 soil samples from the maintenance yard, driveways and operational areas, in water collection and discharge points and from the streambanks on the Facility. These samples were analyzed for PCBs and metals. EPA collected 14 sediment samples from the unnamed tributaries to Logan Branch at the north end of the Facility. These samples were analyzed for PCBs and metals. EPA collected 32 wipe samples from the floors in the two main Facility buildings, Plants 1 and 4. These samples were analyzed for PCBs. EPA collected 4 water samples and 1 oil/water sample from drains, pipes and outfalls in and around the Facility buildings. These were analyzed for metals, volatile and semi-volatile compounds, and PCBs/Pesticides.

EPA inspected the Cerro property and streambanks and areas not visible in February due to snow cover. Cerro officials informed EPA of actions taken by Cerro in response to or related

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to EPA's comments in the March 25, letter (Cerro indicated it was already in the process of correcting some of the problems before EPA became aware of the problems). EPA noted two additional environmental concerns and passed along a safety concern to Cerro management brought to EPA's attention by a Facility worker. The two environmental issues were a valve left open on the containment dike of an oil storage containment area and potential low spots on another oil storage area containment dike. The safety issue was a concern expressed to EPA by a Cerro employee about a spray operation. Cerro officials assured EPA that these issues would be investigated and appropriately addressed and/or corrected.

EPA returned to the Site in July when water levels in Logan Branch returned to normal seasonal levels allowing safe access to the stream for effective sediment sampling. EPA collected approximately 50 sediment samples from Logan Branch. Three of the Logan Branch samples were from locations above Facility operational areas. Four samples were collected in Spring Creek, two above and two below the confluence of Logan Branch. 37 of the sediment samples were from unbiased interval sample locations, the remainder were locations selected by the OSC after consultation with PADER. All sediment samples were analyzed for PCBs and all but four were analyzed for metals. In addition, EPA requested that PADER provide water quality sampling assistance. PADER collected eight samples in Logan Branch above, along, and below the Facility property. These were analyzed for chemical and physical indicators of biological activity and degradation due to sewage or other human impacts. PADER's results are attached. (Attachment III). During the July assessment, the OSC met with the Bellefonte City Manager to inform him of EPA's Assessment activities in the Borough of Bellefonte.

During the July sampling, the OSC made a field judgement to modify the sampling plan. The sample interval in Logan Branch was increased from 100 to 200 feet and to 400 feet above Facility operations. It was felt that this change would not reduce the utility of the data, but would reduce costs and save time.

On December 15, 1993, the OSC completed a "draft" of this Assessment. Copies of the draft Assessment were provided to Cerro, PADER, PAFBC and the USFWS. The OSC requested comments from all parties. In particular, the OSC requested the assistance of the Natural Resource Trustee (Trustees) agencies (PAFBC, PADER and USFWS are the Federal and Commonwealth Natural Resource Trustees for the Site) in reviewing Site data and evaluating potential threats to the environment.

A meeting was held between EPA, Cerro and the other agencies on January 11, 1994 to discuss the draft Assessment. The OSC received written and verbal comments from the three agencies. Cerro discussed its position regarding the report, but requested

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additional time to prepare written comments. The OSC agreed to additional time in order to allow maximum opportunity for Cerro involvement and to submit written comments to EPA concerning the draft report and issues raised by the Trustees during the meeting. The schedule was further extended at Cerro's request because inclement weather resulted in significant lost work hours. It was important to EPA that PADER, PAFBC, USFWS, as well as, Cerro were afforded significant opportunity for input prior to issuance of this Assessment. EPA did receive Cerro's comments according to the extended schedule and rewrote the Assessment pursuant to all comments received.

EPA reviewed each written comment. EPA also considered verbal comments made during the January 11, meeting. EPA considered additional and new data submitted to EPA. EPA considered which comments were appropriate to a CERCLA 104(b) Site Assessment. EPA considered the technical accuracy of, and the data supporting, the comments. Some of the comments resulted in significant change in EPA's understanding or a new understanding of the Site. EPA found that it did not agree with others of the comments for technical, legal or policy reasons. EPA then made appropriate changes and additions to the Assessment to address the comments and additional data.

Major changes to the Assessment reflect four significant areas of comment and included the advice of the Trustees regarding environmental impact issues. The four areas of significant change or addition to the Assessment were:

- 1) EPA added zinc and copper to PCBs and lead as the primary contaminants of concern at the Site at concentrations which have the potential for adverse impact to aquatic environments pursuant to the guidance and data submitted by the Natural Resource Trustees.
- 2) EPA proposed additional response actions to address elevated concentrations of lead, copper and zinc in sediments in Logan Branch and its tributaries. The technology selection for sediment removal reflects the guidance of PAFBC.
- 3) EPA addressed the need to provide further and more detailed study of certain environmental concerns expressed by PADER and Cerro.
- 4) EPA adjusted the schedule to reflect the fishing season calendar as well as practical considerations for implementation of response activities raised by PAFBC and Cerro.

All written comments are attached. (See Attachments IX through XII.)

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#### IV. SITE DATA AND INTERPRETATION

EPA sought the input and advice of the Trustee agencies and Cerro to interpret the data. However, the interpretations and conclusions herein are EPA's. EPA did not agree with all comments it received. Cerro has stated its disagreement with certain of EPA's interpretations and conclusions. (See the letter from Mr. Hendrick to William Steuteville dated February 9, 1994, Attachment XII.)

The inspections revealed areas where operational improvement are warranted. Sample analyses identified elevated concentrations, past and present releases of PCBs, lead, copper and zinc and discharges of these substances into Logan Branch. The PCB findings were largely expected. A PCB problem was suspected at the outset. However, the significance of the lead, copper and zinc findings was not expected. Testing for metals was considered a prudent measure because the Facility is a metals processing plant not because EPA expected to find a problem of this magnitude. The samples revealed concentrations of lead, copper and zinc far more elevated and widespread and with a greater potential impact on the environment than anticipated. The findings of lead, copper and zinc necessitate aggressive response action.

Attached are two reports prepared for EPA: The Weston TAT Trip Report (Weston Report; Attachment IV); and the Resource Applications, Inc. 8(a)TAT Trip Report for Cerro Metals Products Company (etc.) dated 3/16/93 (Resource Applications Report; Attachment V). The Weston Report covers the sampling activities and analytical data of the Assessment. The Resource Applications Report covers the SPCC inspection. The Weston Report has been amended (Weston Amendment) by a two page memo and a map as a result of Assessment review process. In amending the Weston Report none of the data was changed. The Weston Amendment provides a clearer representation of sediment sample locations and facility operation and discusses copper and zinc. (Weston Amendment is Attachment XIII.)

##### A. GENERAL REGULATORY AND SAFETY ISSUES

Several deficiencies were noted during the SPCC inspection. (See Attachments I & IV) Cerro has addressed many of the deficiencies and revised its SPCC plan. (See Attachment VI; Letter to EPA from Mr. Vaiana dated December 15, 1993.) These changes should reduce the likelihood of a significant oil discharge event at the Facility.

As a result of the sulfuric acid spill and fish kill, Cerro has installed additional containment, double walled piping and alarms for its sulfuric and nitric acid systems. These are

designed to reduce the likelihood of future spills.

EPA identified close and sometimes cluttered working conditions as a potential safety problem at the Facility. Some of this was apparently due to limited space. During later visits EPA found a noticeable reduction in clutter and clearer aisles at the Facility. Particular improvement was evident in the TSCA waste storage area where EPA had identified lack of adequate aisle clearance as an environmental and safety issue in February.

Cerro has undertaken several measures to reduce, eliminate and recycle its hazardous and solid wastes. It is also noteworthy that Cerro produces its brass products from largely recycled metal. These waste reduction and resource conservation efforts reduce waste handling at the Facility and, thereby, reduce the likelihood of spillage or contamination at the Facility. These efforts reduce environmental impacts elsewhere by reducing the need for offsite transportation, treatment and disposal, by reducing energy consumption and by reducing the need for virgin product. These efforts may reduce costs.

Cerro has indicated it has emphasized environmental compliance and awareness. This is borne out in recent improvements evident at the Facility. This emphasis started before EPA began its Assessment and may have as much or more to do with Cerro's recent improvements than EPA's involvement. Certainly there has been progress at Cerro. This progress must be maintained. Cerro should be congratulated for its efforts thus far. When it comes to safety and environmental protection, effort is not just a means to an end; effort is an end in itself.

#### B. PADER WATER QUALITY DATA

PADER's assistance in the Site Assessment included providing water quality sampling and analyses. The purpose of the analyses was to identify other environmental factors and other sources impacting Logan Branch. Sampling was conducted in eight locations starting upstream of the Facility proceeding downstream to just above the confluence of Logan Branch and Spring Creek on Logan Branch. The samples were analyzed for total dissolved solids, suspended solids, ammonia, nitrite and nitrate, phosphorous, total organic compounds and chloride. Most of the analytes appear to decrease in concentration in a more or less uniform trend from upstream of the Facility to below the Facility and continuing to the confluence with Spring Creek. If this reduction in concentration is real, one possible explanation of the apparent decrease may be the contribution of additional water volume into Logan Branch from several large springs on or near the Facility. Due to the water volume contribution of these large springs, EPA does not know if the reduction in concentrations of these analytes is a reduction in total loading or if it is the result of dilution. It does not appear that any

significant additional loading of these analytes is occurring at the Facility or that these analytes are a current cause of degradation of Logan Branch at the Site.

### C. ENVIRONMENTAL SAMPLE ANALYSES

#### Sampling Objectives:

In the March 25, 1993, letter to Mr. Hendrick, EPA set out the main objectives for the sampling. The objectives were in the form of questions and are as follow:

1. Are there current/ongoing PCB discharges from the Site?
2. Where are the discharges originating from?
3. Are other pollutants being discharged?

#### Analytical Interpretation:

The sample numbers and analytical results refer to EPA's samples and analyses found in the Weston Report. Interpreting the data in the Weston Report in terms of the above three questions is useful in understanding Site problems and identifying appropriate response activities to correct the problems. Attached are the Weston TAT sampling logs for the April and July sampling (Attachments VII & VIII) giving the date, time and descriptions of each sample location. The Weston Amendment (Attachment XIII) map gives the best map representation of the Logan Branch sediment sample locations.

#### 1) PCB Discharges:

EPA's conclusion is that the answer to question one (Are there PCBs being discharged from the Site?) is yes.

##### a) Current Discharge -

The analyses revealed elevated concentrations of PCBs. Concentrations of PCBs in at least four samples (SED 44, 40, 30 and 43 from the Weston Report) were sufficiently elevated to indicate that PCBs are currently being discharged at some concentration. Logan Branch is a swift rocky bottom stream subject to constant stream-bed scouring; EPA observed changing sediment deposition (moving sand bars) between the April and July trips specifically in the area immediately below TAMA 5 in the Melting Area of Plant 4. It is not likely that concentrations of the magnitudes represented by the data can represent solely residual concentrations from historic releases and discharges in the dynamic environment of Logan Branch where sediments are subject to constant movement. Even if there were no further discharges of PCBs into Logan Branch, the elevated PCB concentrations in Logan Branch sediments would be a continuing source of further release and discharge as they are eroded and

washed downstream.

[TAMA 5 and the Melting Area are mentioned frequently in the following discussions. The Melting Area describes the south end of Plant 4 where several brass and metal melting units are located. TAMA 5 is the largest of the melting units. TAMA 5 has a deep basement area which lies significantly below the water-table and Logan Branch. This basement is constantly de-watered by the TAMA 5 de-watering pump which discharges through the TAMA 5 De-watering Pump Outfall Pipe. Approximately five to ten feet upstream of the TAMA 5 De-watering Pump Outfall Pipe is the TAMA 5 High-water Overflow Pipe. The TAMA 5 High-water Overflow Pipe is an emergency overflow outlet at the level of Logan Branch to protect the above-ground TAMA 5 equipment in the event of a TAMA 5 de-watering pump failure. The TAMA 5 High-water Overflow Pipe appears to be the most significant and likeliest "single" PCB discharge point in the Melting Area. The Melting Area is certainly a PCB discharge area.]

b) The Cerro Source -

The Assessment clearly identified the Cerro Metal Products Facility as the significant PCB source in Logan Branch. Of the five samples upstream of operational areas of the Facility (three on Logan Branch, SED 35, 36 and 37, and two on Spring Creek, SED 47 and 48, above the confluence of Logan Branch), four are non-detectable for PCB and one is detectable for PCBs at low concentrations. These five samples include four of the six total sediment analyses found to be non-detectable for PCBs. The fifth and sixth non-detect locations are also upstream of Plant 4 and most, but not all, Cerro operations. The high PCB sediment concentrations begin where Logan Branch meets Cerro's operational area.

One of the sample locations above the operational area of the Facility exhibited detectable concentrations of PCB (the others were non-detect.) This sample did exhibit 1248 aroclor. While this could indicate another upstream source, it may indicate contamination somehow tracked or carried into the large unpaved parking area south of the Plant on the west side of Logan Branch or tracked by truck or car up Route 144 and washed into Logan Branch from there. Even if another coincidental upstream source of aroclor 1248 exists, it has no significant impact on the data interpretation herein. Due to the relatively low upstream concentrations (one low result out of four samples) the flushing characteristics of Logan Branch and the nature of dispersement of sediments in such a stream, the influence of an upstream source, if any, is negligible given the magnitude and frequency of PCB concentrations beginning at the Cerro operations and continuing in downstream sediments. Whatever other PCB sources may or may not exist, the Cerro Facility is the significant source in this area of Logan Branch.

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Another indication that Cerro is the source of PCBs found in Logan Branch is the finding of aroclor 1248 exclusively in every detectable PCB analyses but one. This is the only aroclor found in these samples and is the only aroclor identified in Logan Branch. This aroclor is present in widely separate locations on the Facility. PCB formulations with aroclors 1260 and 1254 are generally more common. Because 1248 is found almost exclusively it suggests a common source for the PCBs. This almost certainly rules out multiple transient sources such as in the scrap metals received at the Facility.

This knowledge may help Cerro better identify the time-frame and exact source processes for the PCB. This may be possible because certain manufacturers used certain formulations. Cerro should search the literature for products which contained only 1248 and search Facility records for usage and purchase of these products. If other aroclor products were used exclusively in certain processes at the Facility, it may be possible to rule-out such processes as sources.

EPA did identify toluene in both the Die-Cast (SED 52) and TAMA 5 High-water Overflow Pipe discharge (SED 44) and bis(2-ethylhexyl)phthalate in the TAMA 5 High-water Overflow Pipe discharge alone. Cerro should consider whether the findings of these compounds provide any additional clues to the source location(s) and operation(s) of the PCBs.

c) Historic Operations vs. Current Operations Source -

While it is apparent that PCBs are still being discharged at some concentration from the Facility, Cerro's efforts and EPA's inspection/assessment activities and analyses have largely eliminated the possibility that a current Cerro operation is the source for the PCB discharge. Cerro has instituted a waste-oil sampling program whereby all used oils are sampled for PCBs. Current oil analyses do not reveal significant PCB concentrations. Due to dilution factors, it is unlikely that low-level PCB oil concentrations (1 to 10 ppm) found in some oils used on the Site in the recent past would result in the elevated PCB levels (greater than 1 ppm) found in Logan Branch sediments today. EPA inspected all identified PCB equipment and non-PCB transformers for leaks. No significant leaks or evidence of recent leaks were identified. Furthermore, EPA conducted wipe-sampling throughout the two main Facility buildings for PCBs. While the wipe sample analyses seem to be useful in verifying source areas, the actual concentrations are generally low. All but two analyses are below acceptable cleanup concentrations proscribed by the TSCA Spill Cleanup Policy for TSCA regulated spills. These concentrations do not appear to be consistent with recent spills. The wipe samples support a conclusion that current discharges are not related to current Facility operations. The identified PCB discharges appear to be the

result of historic PCB usage at the Facility.

d) Extent of PCB Contamination -

PCB contamination from the Facility in sediments in Logan Branch and its tributaries apparently extends from adjacent to the pavement south of Plant 4 continuing north (downstream) to at least as far as Spring Creek. Low, but detectable, concentrations of PCB (aroclor 1248) were exhibited in both samples taken from Spring Creek below the confluence of Logan Branch. Both samples taken from Spring Creek upstream of Logan Branch were non-detectable for PCBs.

2) PCB Discharge Sources:

EPA's conclusion to question two (Where are the discharges originating from?) is that there are one certain PCB discharge location or area, two highly likely PCB discharge locations or areas, one potential PCB discharge location and three locations needing further investigation.

a) Melting Area -

The Melting Area is certainly a source of ongoing PCB discharge. EPA's Assessment confirms previous speculation regarding TAMA 5 as a source. However, the TAMA 5 De-watering Pump Outfall Pipe and the TAMA 5 High-water Overflow Pipe or the TAMA 5 High-water Overflow Pipe alone may not be the only sources. The data indicates that one or both of these TAMA 5 discharge pipes are sources of PCB discharge, but does not eliminate other discharges of PCB in the Melting Area. A PCB discharge in the general area of Melting Area is clearly indicated by the data. The TAMA 5 High-water Overflow Pipe is certainly one source and may be the major source in the Melting Area.

The highest PCB concentration in sediment nearest the Melting Area was revealed in sediment accumulated inside the TAMA 5 High-water Overflow Pipe. This sediment contained a distinct oily fraction when it was sampled. Many sediments immediately below Melting Area did reveal a briefly visible oily sheen when disturbed; this may indicate the presence of an oily fraction similar to what was found in the pipe. This phenomenon was seen elsewhere but was expressed most predominantly in the TAMA 5 High-water Overflow Pipe.

The downstream data strongly supports this conclusion. The sediment concentrations for 600 to 800 feet adjacent to and below the Melting area are approximately 1 part per million (ppm) PCB or higher. Most importantly, both the biased sampling and the unbiased interval sampling support the Melting Area. This

section of stream is the only section which exhibits such continuous elevated PCB concentrations. Only two other contiguous 200 foot un-biased interval samples (SED 13 and 14) exhibit adjacent PCB concentrations at or near 1 ppm. The elevated PCB levels along this stretch of Logan Branch near the Melting Area could be the result of a single point discharge, such as from the TAMA 5 De-watering Pump Outfall Pipe, or it could be the result of general or multiple seepage points along the foundation of Plant 4 in the Melting Area. The Plant 4 foundation forms the east bank of Logan Branch along this length of stream.

Only one significant PCB result (SED 46) is located above the Melting Area and TAMA 5. SED 46 is approximately 200 feet above the TAMA 5 discharge pipes and is itself directly below a Cerro discharge structure/location. Except for the SED 46 location, all the upstream samples (seven of eight) are below 500 ppb (parts per billion) and four are non-detect.

The wipe samples also seem to support the Melting Area source. Wipe samples revealed PCB concentrations generally between non-detect and up to 3 micrograms per 100 cubic centimeters (ug/100cm<sup>2</sup>) throughout Plants 1 and 4, except in the south end of Plant 4 where Melting Area is located (and one isolated location in the north end of Plant 4). PCB concentrations on Facility floors are highest in the Melting Area in the south end of Plant 4.

b) Likely PCB Sources -

In addition, two other likely PCB discharges are indicated by the data. The outfall box represented by SED 40 and 39 is one discharge. [SED 40 was collected inside the outfall box. SED 39 was collected outside the outlet box. Both samples are in areas in the normal (frequent) flood zone of Logan Branch. For the purposes of clarification in this report only, SED 39 will be considered a Logan Branch sediment sample, SED 40 will not be considered a Logan Branch sediment sample. Instead, SED 40 will be considered to be a sediment sample from inside Plant 4's storm sewer.] This outfall box is clearly a historic source and a potential current source and represents the highest PCB concentration analyzed. This outfall box is not far below the Melting Area discharge area and may be another manifestation and discharge point for a suspected PCB plume related to the Melting Area. Whether or not it is related to Melting Area, this outlet box represents another current discharge or historic release point. The highest concentrations at the Site were found in the sample taken inside the outfall box and, therefore, could not be the result of re-deposition from an upstream discharge.

The elevated PCB concentrations represented by SED 13 and 14 appear to indicate a second likely source. SED 13 and 14 were

interval samples that did not exhibit any obvious characteristics of a source area when they were sampled. They are located well downstream of the Melting Area and would not have been sampled if the 200 foot sample interval had not coincided with these locations. These sample locations are near and topographically below the area of the Facility, called the North Yard. Soil sampling in the North Yard revealed elevated PCB concentrations in soils. Cerro subsequently excavated these soil sample locations. Historically Cerro handled oils in the North Yard, including some oils which contained PCBs. Erosion of soil containing elevated concentrations of PCBs from the North Yard is the likeliest explanation of these stream sediment concentrations. The fact that the concentrations were identified through unbiased interval sampling lends considerable weight to the identification of the North Yard as a source location.

c) Other Potential PCB Sources -

The biased sample collected (SED 52) from the seep area which first identified the PCB problem in Logan Branch was elevated for PCBs. This discharge is referred to as the Die-Cast Area. Sediments near the Die-Cast Area seep exhibited a PCB concentration of 1.2 ppm. Some samples downstream of the Die-Cast Area are also elevated. But there is not the same strong correlation between the Die-Cast Area and downstream PCB concentrations as is exhibited by the Melting Area. Once again, the wipe sampling seems to support this source location. Three out of four of the wipe samples exhibiting detectable PCB levels in Plant 1 are in the Die-Cast Area. Listing this as a "potential" source rather than a "known" or "likely" source reflects a determination based solely upon EPA's data. Other reliable data reveals that this is or very recently was a PCB discharge source. EPA does not doubt that this is or recently was a PCB discharge location. Cerro has already instituted measures to address this source.

d) Other Locations to be Investigated -

Finally, one elevated concentration, SED 46, was found upstream of the Melting Area. This sample was taken below the outfall from the paved area below the Baghouse. The outfall is located immediately below the automobile bridge over Logan Branch at the south-end of Plant 4. This location and the two isolated PCB wipe sample locations may merit investigation as PCB discharge/source areas.

3) Other Pollutants Being Discharged:

EPA's conclusion to the last question (Are other pollutants being discharged?) is also yes. Lead, copper and zinc concentrations are elevated in soils, sediments and streambanks

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on the Site and in Logan Branch and its tributaries. Lead, copper and zinc contamination are wide-spread over the Site and appear to have significant adverse impact on Logan Branch. There were indications of ongoing erosion at the locations where several of the soil and streambank samples were collected. The contaminated materials were clearly subject to erosion, discharge to Logan Branch and release from the Site.

Lead is elevated in most soil analyses. Sample SS-2 is 6990 ppm lead. Most soils are greater than 1000 ppm lead. Copper and zinc concentrations are elevated in most soil analyses. Sample SS-8 has 58,300 ppm (5.8%) copper and 97,400 ppm (9.7%) zinc. Most soil analyses are greater than 5000 ppm for copper and zinc. The soil samples were collected from exposed soils in drive and operational areas and drainage features. All soil samples represent areas subject to erosion and off-site transport and release.

Most the streambank soil analyses are elevated for lead, copper and zinc. The highest concentrations of these metals in streambank soils are found in sample SS-13 (0.7% lead, 17% copper and 12% zinc). These streambanks are exposed and subject to weathering and erosion. Many of the exposed streambanks adjacent to on the operational areas of the Site are formed of slag material. Many of the streambank analyses are from samples of this exposed slag material. The exposed slag is weathered and eroding.

Most sediment analyses from Logan Branch adjacent to and below Cerro operational areas are elevated for copper and zinc and many are elevated for lead. Sample SED 39, which is adjacent to the outfall box where the sample exhibiting the highest PCB analysis was located, exhibits some of the highest lead, copper and zinc sediment analyses (5490 ppm lead, 3630 ppm copper and 4340 ppm zinc). The upstream sediments contain lead concentrations ranging from 90 to 129 ppm. Sediment samples along the operational areas of the Facility range from 83 to 5490 ppm lead. The upstream sediments contain copper concentrations ranging from 33 to 201 ppm. Sediment samples along the operational areas of the Facility range from 182 to 12,100 ppm copper. The upstream sediments contain zinc in concentrations ranging from 90 to 129 ppm. Sediment samples along the operational areas of the Facility range from 202 to 6520 ppm zinc.

a) Discharge Sources for Lead, Copper and Zinc -

Lead, copper and zinc contamination is wide-spread at the Site. Discharges of these metals are the result of erosion and washing of soils, slag, dust, dirt and sediments from water channels, exposed streambanks, drive and parking areas and areas of exposed soils into Logan Branch. The sources include current

operations as well as historic activities and materials handling at the Facility. Some sources may be more significant than others. All sources potentially result in discharge of these metals contributing to the contaminated sediment in Logan Branch and its tributaries.

Source Locations -

o SED 40 Outfall

The outfall at SED 40 and 39 is clearly a source of discharge of lead, copper and zinc. SED 40 exhibited the highest lead and zinc concentration and second highest copper concentration of any Site analyses. These metals are found at or near percentage level concentrations. Sediments outside this outfall were also significantly elevated compared to adjacent sediment samples up- and downstream. This outfall is reported to be a roof drain.

o South Pavement

The pavement/parking area at the south-end of Plant 4 is also a source for lead, copper and zinc. The sediment samples in Logan Branch adjacent to this area exhibit some of the highest concentrations of these metals in sediments at the Site. The corresponding soil samples from drop-boxes and grates in this area also exhibit elevated concentrations of these metals. Two possible sources of these metals are apparent: Baghouse Dust and scrap metal fines. Baghouse Dust and metal fines were visible on the pavement during the Assessment. The Logan Branch analyses indicate that the south pavement is a significant source of discharge of lead, copper and zinc.

o North Yard

This area includes all the area west of Logan Branch and east of the railroad tracks in the area of Building 6 at the north end of the Facility. Samples of soil/sediment in water channels and low spots in the North Yard were elevated for lead, copper and/or zinc. This area is reportedly built upon slag deposits which are apparent along the streambanks in this area. Slag is a likely source of metals in these soils, although the contamination could also be the result of tracking from other areas and materials handling. The North Yard soils are not protected from erosion. The corresponding elevated concentrations of PCBs and metals in sediments in Logan Branch indicate that the North Yard is impacting Logan Branch. This area is considered to be a significant source of discharge because of the elevated metals concentrations in exposed soils at the surface of

this high traffic area and the corresponding concentrations in Logan Branch sediments.

o Area West of the Railroad by the North Yard

The area west of the railroad tracks by the North Yard where the water treatment plant is located also exhibited elevated concentrations of metals in surface soils and sediments in erosion areas, exposed water channels and low spots. The unnamed Logan Branch tributaries also exhibited elevated concentrations of these metals. Waste treatment sludges were reported to have been stored in this area at one time and slag is apparent at the surface in many locations. Analyses of sediment showing elevated metals concentrations in the little unnamed tributary and the drainage channel indicate that this area is a source of current discharge of metals to Logan Branch.

o Streambanks

The banks of Logan Branch through the Facility exhibited significantly elevated concentrations of lead, copper and zinc. Many of these streambanks are formed of slag material and are weathered and eroded. Analytical data and EPA's observations indicate the streambanks are a source of discharge of metals into Logan Branch and its tributaries.

o Unpaved South Parking Area West of Logan Branch

The unpaved south parking area west of Logan Branch was not sampled. It is unpaved and subject to tracking and erosion. Some slag is visible. Logan Branch sediment samples exhibit elevated concentrations of metals which may be attributable to this area. If this area exhibits elevated concentrations of surface contamination, it is a source of discharge into Logan Branch.

o North Parking Area East of Logan Branch

The parking and drive area north of Building 1 includes the areas inside and outside the fence east of Logan Branch. This area was not sampled. It is subject to tracking from the North Yard where surface soils exhibit significant contamination. Surface water from this area drains directly from these surfaces into Logan Branch. If this area exhibits elevated concentrations of surface contamination in sediment, dirt and dust as seen elsewhere, it is a source of discharge into Logan Branch.

**Source Operations -****o Baghouse operations**

EPA did not sample the Baghouse Dust, but according to PADER officials, Baghouse Dust contains high concentrations of zinc, copper, lead and other metals. Baghouse operations remove most of the solids from Cerro's air emissions. This collected material is called Baghouse Dust. The Baghouse Dust is collected and shipped off-site for reuse or reclamation for this metal content. EPA observed that Baghouse operations resulted in significant quantities of Baghouse Dust spilled on the ground and pavement around the Baghouse. It was observed that this spilled material was tracked and washed over the parking lot/pavement south of Plant 4 which drains directly into Logan Branch. This spillage may not be limited to the pavement and may also impact Route 144 and road ditches adjacent to Baghouse which also drain into Logan Branch. Baghouse Dust is being spilled from Baghouse operations, discharged into Logan Branch and is contributing to elevated concentrations of metals in Logan Branch sediments.

**o Scrap metal handling**

Scrap metal accounts for a large percentage of the metal used in Cerro's brass production and processing. Cerro told EPA that brass contains percentage level concentrations of copper and zinc and may contain significant concentrations of lead. Scrap is generated in many areas of the Facility from many operations and brought from offsite. The scrap metal receiving area is at the south end of Plant 4. Scrap metal fines were observed in drop boxes and spilled and tracked and washed over the pavement at the south end of Plant 4. This area appeared to be the area most impacted by scrap metal fines, but metal fines were observed at many locations in the facility. EPA did not sample the scrap fines. EPA believes that spilled scrap metal fines are contributing to elevated concentrations of these metals in Logan Branch sediments.

**Historic Sources -****o Slag**

Slag is a historic source. Large areas of the banks of Logan Branch and its tributaries are formed of slag material. Analyses of the slag material exhibit high concentrations of all three metals of concern. The North Yard is reported to be built on slag and EPA's observations support this possibility. In fact, slag can be observed in many locations throughout the Facility on both sides of

Logan Branch. Slag is clearly the source of high concentrations of metals in streambank materials and is a source of discharge into Logan Branch.

o Historic Dust Fallout

Prior to the 1970s, air emissions at the Site were not treated. The material which is recovered from the Baghouse operations was previously emitted into the atmosphere in form of particulate matter and dust. How much impact this historic dust fallout had, if any, on current concentrations of lead, copper and zinc in surface soil metals concentrations is not know. Based upon experiences at other sites, it is likely that historic dust fallout caused some of the soil contamination found at the Site today. Soil erosion is a source of discharge of contaminated soil into Logan Branch.

Current Sources -

o Soil Erosion

EPA observed evidence of ongoing erosion of contaminated soils, slag, sediment, dust and metal fines. Soil erosion and erosion of other materials is a current source of discharge from the Site as indicated by the sample data.

o Baghouse Dust

As previously discussed, Baghouse Dust handling operations are a current source of discharge of contamination into Logan Branch.

o Scrap metal

As previously discussed scrap metal fines from scrap metal handling are a source of discharge of metals into Logan Branch.

o Current Dust Fallout

It is hoped that current dust fallout, other than spilled "Baghouse Dust," is not a currently a significant source of emission from the Site. However, some of the highest concentrations of metals were found in an outfall box is reported to be from a roof drain. This may be residual contamination from historic dust fallout sources or from another past or current source in the building, but the finding raises some concern for ongoing dust contribution. Current dust fallout must be considered a potential source of discharge of metals into Logan Branch.

b) Biological Water Quality Indicators -

The PADER data suggests that the Facility is not a significant source of these biological and chemical water quality indicator parameters.

c) Pollutants Other Than PCB, Lead, Copper and Zinc -

There is no indication that other contaminants are having a significant impact on surface soils and sediments or surface waters at the Site. EPA conducted metals, volatile and semi-volatile compound and PCB/pesticide scans of Cerro's process water (before and after treatment), sanitary sewer line, the South Lot NPDES oil/water separator, the Die Cast Seep, the TAMA 5 High-water Overflow Pipe (SED 44), and a storm water drop box containing an oil/water separator unit. These analyses were non-detectable for almost all analytes in most samples. A few samples revealed low concentrations of one of two phthalate compounds and two samples (the TAMA 5 High-water Overflow Pipe and Die-Cast samples) exhibited low concentrations of Toluene. While these sample results do not totally eliminate the possibility of the presence, discharge or release of other compounds at or from the Site, these sample locations present the most likely areas that might exhibit elevated concentrations of other compounds if such other compounds were a significant problem at the Site. EPA does recommend some further monitoring and analyses for other compounds, but these data support moving expeditiously forward with response action to address PCBs, lead, copper and zinc as primary the contaminants of concern at the Site.

D. HAZARDOUS SUBSTANCES AND RELEASES

PCBs, lead, copper and zinc have been released at the Site and are hazardous substances pursuant to CERCLA. "Release" as used herein relates to the CERCLA definition of release and refers to elevated concentrations of these hazardous substances in soils, slag, sediment, dust, metal fines, etc., that have come to be present in the environment on or off Cerro property due to past or present human activities at the Site. Releases are regulated pursuant CERCLA. As used herein "discharge" is a release pursuant to CERCLA and specifically refers to a recent, current or future release or release point into Logan Branch or where the potential for such a release exists.

Lead, copper and zinc are naturally present in the environment. However, these metals are present at the Site in concentrations well above expected concentrations due to naturally occurring sources. The data indicate that specific releases of lead, copper and zinc have occurred at the Sites. Many concentrations of lead, copper and zinc found in sediments in Logan Branch at the Site are at or above levels which have

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been shown to cause adverse impact on aquatic species. Concentrations of lead found in certain soils and sediment samples at the Site are above applicable action levels and levels of concern for human health.

PCBs are not naturally occurring. PCBs have been widely used by man and are often found in low concentrations in many environments. However, the concentrations of PCBs found at the Site indicate that specific release(s) of PCBs have occurred at the Site. Some PCB concentrations found at the Site are above applicable action levels. Some concentrations of PCBs in Logan Branch may be at or above concentrations which may have an adverse effect on the environment and aquatic species.

## V. HUMAN AND ENVIRONMENTAL EXPOSURE AND IMPACT

EPA sought the input and advice of the Trustee agencies and Cerro to interpret the data. However, the interpretations and conclusions herein are EPA's. The other involved parties may or may not agree with EPA's interpretations or conclusions.

### A. HUMAN EXPOSURE

The preceding discussions generally focus on the release of hazardous substances and environmental impacts, primarily with respect to discharges into Logan Branch. However, human populations may be exposed to these hazardous substances on and off Cerro property. EPA has identified five human populations potentially at risk of exposure to PCBs, lead, copper and zinc from the Site: 1) Facility workers, 2) Families of Facility workers, 3) Other persons exposed to contaminated soil, dust and streambanks (including fishermen/women and children walking the streambanks,) 4) People swimming/playing in Logan Branch or its tributaries on or below Cerro property, and 5) People eating fish from Logan Branch and its tributaries and Sprig Creek near the Cerro Facility. These groups may be exposed to PCB, lead, copper and zinc due to direct contact or ingestion of soil, sediment, dust and fish tissue from the Site.

Workers have daily access to contaminated areas and media on the Site. Workers may track or carry these contaminants home where family members may contact such contamination. Logan Branch is a major fishery and recreational resource in the area. Fishermen/women and people using Logan Branch for fishing or other recreational activity may be exposed to contaminated soils, streambanks and other surfaces. People, particularly children and youths, swim and play in Logan Branch. Such persons may be exposed to contaminated stream sediments. People eating fish from Logan Branch may be exposed to concentrations of PCBs in fish tissue.

These potential human exposures may be significant or may not be significant depending on the intimacy and frequency of exposure, the age and other physical, behavioral and health characteristics of the individual and whether an individual falls into multiple exposure categories or experiences other non-Site related environmental or occupational exposures to such contaminants. A potential for exposure to a specific human population does not mean that any particular individual within the population has been exposed or that anyone who was exposed has suffered any ill-effect due to such an exposure. However, that potential does exist. Anyone who has individual concerns or questions relating to their own potential exposure to such contaminants should consult their personal physician, PADOH or the Center County Health Department.

EPA believes that appropriate response actions and additional study are necessary to evaluate, reduce or eliminate these potential human exposures. The actions proposed in Section VI, below, are designed to assess, reduce, eliminate or mitigate the likelihood of human exposure to these hazardous substances.

EPA has not assessed occupational exposure to these compounds or other compounds at the Facility. Anyone who has questions or concerns regarding issues relating to occupational exposure has several options for receiving further information. Such questions should be discussed with their physician, the Occupational Safety and Health Administration (OSHA) which is responsible for the regulation of work-place health and safety or seek the guidance of the National Institute for Occupational Safety and Health (NIOSH) which is responsible for providing guidance, study and consultation on work-place health and safety issues or contact the Pennsylvania Department of Health (PADOH). EPA also encourages Cerro employees to discuss concerns with Cerro management. EPA understands that Cerro provides some medical services to its employees through medical personnel on retainer to Cerro.

#### B. ENVIRONMENTAL EXPOSURE AND IMPACT

EPA requested the advice and assistance of the Natural Resource Trustees in evaluating environmental impacts and exposures, particularly relating to Logan Branch and its tributaries. PADER, PAFBC and USFWS all advised EPA that concentrations of lead, copper and zinc in sediments in Logan Branch and its tributaries presented a threat to the environment. PADER advised EPA that lead, copper and zinc concentrations in sediments in Logan Branch coincided with and were the cause of depressed biological activity in Logan Branch adjacent to the Cerro Plant. The Trustees cited published data regarding the toxic effects of lead, copper and zinc in sediments on aquatic species. PADER submitted Logan Branch data to EPA documenting reduced biological activity in the area of the Cerro Plant. The

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written comments of PADER, PAFBC and USFWS are attached as Attachments IX, X and XI, respectively.

EPA reviewed the Trustees data and the published data. Based upon Site data, the published data and the advice of the Trustees, EPA believes that the release of hazardous substances has resulted in an adverse impact on Logan Branch and its tributaries and the aquatic environment. EPA believes appropriate response actions are necessary to address and reverse this adverse impact. The response actions EPA proposes in Section VI, below, are designed to reduce, mitigate, reverse and/or eliminate this environmental impact. EPA has consulted with the Trustees in designing these actions to be as practical, cost effective and protective as possible and to minimize, to the extent practicable, disruption to Logan Branch and the fishery. The Trustees believe these response actions will be effective in restoring Logan Branch over-time if properly implemented. Soil and streambank stabilization and sediment removal activities must be conducted to avoid the important months of the 1994 and 1995 fishing seasons.

#### C. MIGRATION AND FURTHER RELEASE OF HAZARDOUS SUBSTANCES

Soil and sediment sampling representing streambanks, operational drive/parking areas, water channels and storm drains and pipes show the widespread occurrence of elevated concentrations of lead, copper, zinc and, to a limited extent, PCBs at the Site. Most or all of these samples were either collected from water channels or from areas subject to and/or unprotected from erosion, and/or from areas subject to tracking from the Site by people and cars. Stream sediment sampling has confirmed the release and discharge of these hazardous substances from the Facility into Logan Branch and its tributaries and Spring Creek. If steps are not undertaken to eliminate or reduce this ongoing migration, the release of hazardous substances from the Site and potential human and environmental impacts will continue unabated for the foreseeable future.

EPA believes that appropriate response actions are necessary to reduce, abate, mitigate or eliminate the release of hazardous substances from the Site. EPA's proposed actions are designed to address the migration of hazardous substances from the Site. EPA has consulted with the Trustees to plan stabilization of the Site in order to address the "worst" areas first and coordinate the activities with streambank stabilization and sediment removal activities along Logan Branch and its tributaries. This coordination will reduce the likelihood that recontamination will occur requiring cleaning areas twice or more times.

#### D. ACTION LEVELS AND CLEANUP LEVELS

An "action" level is the concentration at which a response

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action should be initiated. A "cleanup level" is the concentration which a cleanup should achieve. The two are sometimes, but not always, the same. These levels may be set by law, regulation or policy or they may be set using specific criteria related to site conditions and toxicological factors. Cleanup criteria are often dependant upon the cleanup technology. At this time, PADER is pursuing the cleanup of the Site pursuant to Commonwealth law. EPA does not know which, if any, Commonwealth action levels or cleanup levels apply to this Site. EPA has established action and cleanup levels which appear to be applicable to some of the response actions proposed herein if undertaken pursuant to Federal law. However pursuant to CERCLA and other laws, more stringent health or Site-specific criteria may also be used where applicable.

Site-specific toxicological based cleanup criteria for the protection of Logan Branch appear to be applicable to the Site. PADER has suggested 200 ppm lead, 300 ppm copper and 400 ppm zinc as levels of concern for sediments (see attachment IX.) EPA believes sediment action/cleanup levels in these ranges are appropriate and supported by toxicological studies.

EPA believes that action levels for sediment removal should be based upon aquatic toxicological factors. Action and cleanup levels for soils must also address aquatic toxicology as well as human health. In other words, the soil cleanup or other terrestrial response actions must also be protective of Logan Branch by preventing of toxic concentrations of sediment accumulating in Logan Branch -- as well as being protective for direct human contact or ingestion of soils. Action and cleanups levels would also need to address the potentially synergistic effects of lead, copper, zinc and PCBs in soils and sediments. Soil cleanup levels would need to be both protective of human health for direct contact and not contribute to sediment loading in Logan Branch with sediments containing metals concentrations of magnitudes suggested by PADER. Human health and regulatory based soil cleanup levels may be protective of Logan Branch, but they may not. Logan Branch must be considered when determining action and cleanup levels for soils even if it results in lower soil cleanup criteria.

On-the-other-hand, concern over cleanup criteria for soils and sediment may be unnecessary. EPA's data indicates that all the sediment over the length of Logan Branch from south of Building 4 to Spring Creek must be addressed based upon the Logan Branch data and toxicological studies submitted by the Trustees. Any "action level" based upon the Trustees' criteria would be lower than the sediment concentrations found in the areas of Logan Branch under consideration. A "cleanup level" is not applicable for shallow sediment deposits such as those found in Logan Branch; all the sediments must be removed to the extent practicable. The question of cleanup criteria for sediments

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appears to be moot.

Similarly, it appears that all the surface/soil areas EPA sampled need to be addressed. EPA expects that its analyses are fairly indicative of metals concentrations in most of the surface areas proposed for response action in VI.3., below. In which case, the question of the appropriate soil "action level" may be moot. Likewise, if a response technology involving containment rather than removal is selected and approved, the "cleanup level" question is also moot. Therefore, action levels and cleanup levels for sediment and soil removal may not be relevant to the immediate response actions proposed in VI. 3, 5 and 6, below.

## VI. PROPOSED RESPONSE ACTIONS

EPA sought the input and advice of the Trustee agencies and Cerro when developing the proposed response activities. The Trustees agreed to the central points of all the proposals, but have not yet seen the final proposals. Cerro has repeatedly stated its intention to undertake all necessary response actions. Cerro has already agreed to implement many of these proposals and has begun implementation of several. However, as of the date this Assessment was issued, Cerro had not seen all of the proposals.

The following activities and schedule are intended by EPA to address the releases of hazardous substances identified at the Site and to reduce, mitigate or eliminate the adverse impacts of such releases. The pre-designated Federal On-Scene Coordinator, William D. Steuteville (OSC), believes these actions are necessary to protect public health and welfare and the environment and, if properly performed and implemented, will be effective and consistent with CERCLA and the NCP. However, EPA is not the regulatory lead; EPA is assisting PADER which is the regulatory lead at the Site. EPA has not undertaken administrative action to adopt these proposed actions or any other actions pursuant to CERCLA, the NCP or any other law administered by the EPA. EPA does not anticipate undertaking such administrative action unless EPA assumes a lead regulatory role at the Site. Nothing herein precludes EPA from undertaking any and all appropriate response or enforcement actions at the Site to address the conditions identified in the Assessment or other conditions any time such actions are deemed to be warranted by EPA pursuant to Federal law. EPA reserves the right to undertake these or any other appropriate action at any time pursuant to Federal law.

The following proposed actions are considered appropriate and necessary to address the release or potential release of hazardous substances at the Site and to protect the public and environment:

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1) Cerro should immediately remove and properly dispose of sediments and sludges with elevated PCB concentrations in and around the outfalls represented by samples SED 44 and 40. Furthermore, Cerro should provide for the discontinuance of use or decontamination and sealing of the interiors of such outfalls to prevent any further discharge of PCBs from such outfall structures. Immediate steps should be taken to prevent any further discharge from these outfalls and prevent further contact with water from Logan Branch to the contents and the contaminated interiors of these structures.

2) Cerro should take immediate steps to eliminate the loss, spillage and/or fallout of Baghouse Dust, including prevention of loss from the Baghouse Dust collection system and Baghouse Dust handling operations in order to prevent Baghouse Dust from spilling onto the ground or pavement and from reaching Logan Branch. All discharge of Baghouse Dust into Logan Branch must be prevented. For purposes of this document, "Baghouse Dust" shall mean any solid particulate matter emitted or generated from the Baghouse operations and equipment other than those particles, if any, emitted directly to the atmosphere from the permitted air emission stack(s) or vent(s).

3) Cerro should immediately implement measures to remove and/or address elevated levels of lead, copper, zinc and PCBs in exterior soils, slag, sediment, dusts and metal fines in the areas described below in order to prevent human exposure to or discharge of such soils, slag, sediments, dusts and metal fines into Logan Branch. These measures should be adequate to prevent migration of hazardous substances from these areas now and in the future and should be consistent with preventing current and future contact with such hazardous substances by persons entering these areas of the Site. Steps should be implemented to prevent soil, slag, sediment, dust and metal fine release(s) during and resulting from implementation of the above measures due to soil disturbances (i.e. soil excavation.)

The data suggests that lead, copper and zinc contamination are pervasive and, PCB contamination may also be present in certain locations at the Site. EPA did not sample everywhere, but everywhere EPA sampled soils on the Cerro property EPA identified elevated concentrations of one or more of these contaminants. To the extent that Cerro believes that certain of the areas or portions of areas described below do not have elevated concentrations of lead, copper, zinc and/or PCBs, Cerro should immediately conduct sampling in these areas in order to show that such areas do not need to be addressed. Such sampling shall not effect the schedule for these activities in VII, below.

Specifically, Cerro should address:

- a) The area around the Baghouse and Baghouse equipment. [The

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existing Baghouse Dust and soil/dirt contaminated with Baghouse Dust on the ground and other surfaces around the Baghouse, Baghouse equipment and on the pavement or elsewhere at the south end of Plant 4 should be removed and properly disposed.]

- b) The pavement at the south end of Plant 4. [The pavement should be cleaned of any contaminated sediment, dust, metal fines, dirt or other material. Measures should be instituted to prevent the future build-up or discharge of such contaminated materials from the pavement into Logan Branch.]
- c) The entire operational area west of Logan Branch, east of the railroad tracks and north of Building 1, called the North Yard. [Remove and/or address surface concentrations of lead, copper, zinc and PCBs in slag, soil, sediment, dusts and metal fines and prevent human exposure to or discharge of such materials.]
- d) The drive areas and operational areas and exposed soils and slag west of the rail road tracks and east of the unnamed tributary (where NPDES Discharge # 1 is located) at the far north end of the Cerro property. [Remove and/or address surface concentrations of lead, copper, zinc and PCBs in slag, soil, sediment, dusts and metal fines and prevent human exposure to or discharge of such materials.]
- e) The unpaved parking and operational areas and exposed soils on the west side of Logan Branch south of Plant 4. [Remove and/or address surface concentrations of lead, copper, zinc and PCBs in slag, soil, sediment, dusts and metal fines and prevent human exposure to or discharge of such materials.]
- f) The parking areas east of Logan Branch north of Plant 1. [Remove and/or address surface concentrations of lead, copper, zinc and PCBs in slag, soil, sediment, dusts and metal fines and prevent human exposure to or discharge of such materials.]
- g) Any other surface area which Cerro is aware of or becomes aware of which may contribute to human exposure or contribute to migration of contamination into Logan Branch or its tributaries.

The areas addressed in VI.3.a through VI.3.f, above, were identified because they were consistent with the highest likelihood of human exposure hazardous substances and/or migration of hazardous substances into Logan Branch and its tributaries. Other areas may possess similar concentrations of hazardous substances and exposure and migration characteristics. Such areas should be investigated through comprehensive Site investigation activities discussed in VI.9.c., below.

4) Unused interior drains in Cerro property buildings should be plugged. Interior surfaces are not addressed in VI.3, above, because such areas should drain to the NPDES treatment system only. Other interior floor drains which are not identified or do

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not drain to the NPDES treatment system or other know "closed" process system should be plugged immediately. No interior floor or process drains should discharge to Logan Branch or its tributaries except through the NPDES discharge #1.

5) Cerro should remove and replace, as appropriate, and stabilize all banks of the Logan Branch and its tributaries (other than steel, cement, stone and/or masonry walls) on or near the Cerro property. This effort should be consistent with stopping erosion and degradation of the streambank, with stopping direct contact of the waters of Logan Branch and its tributaries with contaminated streambank materials, with maintaining the hydraulic flow characteristics and not impacting flood characteristics in Logan Branch and its tributaries and with eliminating direct contact of contaminated streambank surfaces by humans. EPA's sample data and observation indicates that contamination is likely to be found in streambank material from south of Plant 4 to at least the railroad bridge north of the North Yard, and possibly further downstream, and along the unnamed tributaries. To the extent that Cerro believes that certain streambank areas do not exhibit elevated lead, copper, zinc and PCB concentrations, including but not limited to rail road ballast which were not sampled by EPA, Cerro should immediately conduct sampling to determine streambank areas that need not be addressed. Such sampling shall not effect the schedule for streambank stabilization activities in VII, below.

6) Cerro should remove fine stream sediments from Logan Branch and from portions of its tributaries starting in the area adjacent to the pavement on the east side of Logan Branch south of Plant 4 proceeding downstream (towards the north) to its confluence at Spring Creek. The effort should utilize vacuum technology or another equally effective sediment removal method. The vacuum technology for sediment removal method has already been approved by the Trustees. Any alternate method must also be approved by the Trustees. This effort should be done concurrently with streambank stabilization pursuant to VI.5, above, and sediment transport control measures instituted pursuant to VI.7, below. It is hoped that a single sediment removal operation will be effective, however additional sediment removal may be necessary based upon future monitoring and analyses of Logan Branch pursuant to VI.9.j, below.

7) Cerro should minimize, to the extent practicable, sediment disturbance and transport in Logan Branch resulting from response operations in Logan Branch and its tributaries pursuant to VI.5 and VI.6, above. This should be accomplished by utilization of vacuum technology to collect and remove such sediments before and when they become dislodged (during construction.) Other sediment collection and sediment migration reduction technologies, including appropriate use of temporary sediment barriers, should be employed as appropriate. EPA understands that sediment

generation and transport can not be wholly avoided when working in Logan Branch pursuant to VI.5 and 6, above, but steps must be undertaken to reduce such sediment transport to the extent practicable. Cerro should monitor Logan Branch for sediment loading during streambank stabilization and vacuuming operations.

8) Cerro should address PCB and free-oil concentrations and accumulations as they are identified pursuant to ongoing investigations in or near the die-cast and melting areas of Plant 1 and Plant 4, respectively.

9) Cerro should implement an overall Site investigation consistent in quality and thoroughness with a remedial investigation and feasibility study typically utilized at CERCLA National Priorities List Sites. This investigation should be inclusive of, but not necessarily limited to, the following (not listed in order of importance or schedule priority):

- a. Sampling and analyses of sediment in Spring Creek for lead, copper, zinc and PCBs.
- b. Analyses of fish tissue of fish from Logan Branch for lead, copper, zinc and PCBs at least every other year or more frequently as required. PADER and/or PAFBC will provide fish samples.
- c. Identify, investigate and sample all surface areas of the Facility and other non-residential property in the proximity of the Facility for elevated concentrations of lead, copper, zinc and PCBs in surface soils. This effort should include the entire Site and adjoining and nearby properties. This effort should consider areas of the Cerro property and other properties in the proximity of the Cerro property which have been or may have been impacted by airborne, waterborne, tracked and/or directly deposited (dumped/landfilled) contamination from the Cerro property.
- d. Identify, investigate and sample all residential properties, school properties and public parks and recreational properties, if any, in the proximity of the Cerro Facility for elevated concentrations of lead, copper, zinc and PCBs in surface soils which have been or may have been impacted by airborne, waterborne, tracked and/or directly deposited (dumped/landfilled) contamination from the Cerro property.
- e. Investigation of the extent, concentration and depth of subsurface contamination (in soils and groundwater), including but not necessarily limited to slag deposits, PCBs and free-oil, lead, copper and zinc at the Site.
- f. Investigation of the impact of contaminated surface and subsurface soils and slag deposits on water quality, including leachability, percolation, subsurface water quality and limestone geology spring-water quality and sediment transport (where springs occur at or near such subsurface contamination). [VI.9.e and VI.9.f are different. Both VI.9.e and VI.9.f look at subsurface

contamination and groundwater. However, VI.9.f is distinguished from VI.9.e, above, largely by purpose. VI.9.e is for extent: Where is the contamination? VI.9.f is for the impact: How is the contamination affecting groundwater?]

- g. Identification of all pipes or other outfall structures from the Cerro property. Identify the purpose and source, if possible, of such structures. Remove any unnecessary structures from service (including removing pipes or plugging both ends). Sample all discharges from such structures for PCB, lead, copper and zinc and other parameters as necessary.
  - h. Monitoring and sampling of all surface water run-off from the Facility into Logan Branch and its tributaries (discharges into the NPDES treatment system are excluded), including but not limited to run-off from operational, drive, parking areas, the areas identified and addressed pursuant to VI.3, above, (after they have been addressed) and from roof drains. These discharges should be sampled for lead, copper and zinc in the aqueous phase and solid phase (sediment.)
  - i. Investigation and assessment of other areas of the Cerro property which may have subsurface concentrations of PCB and free-oil, including but not necessarily limited to the North Yard.
  - j. Periodic monitoring of sediments in Logan Branch and its tributaries for PCBs, lead, copper and zinc.
- 10) Cerro should implement response activities, as appropriate, to address the findings of the Site investigation in VI.9, above.
- 11) Cerro should review and revise its SPCC plan consistent with Federal regulations.
- 12) EPA recommends Cerro consult with an IH regarding the concentrations of PCB, lead, copper and zinc in operational areas of the Cerro property both inside and outside of the Plant buildings, the other findings of this Assessment and the potential for impact of these proposed response activities on Plant workers.
- 13) Cerro should conduct all the response activities described above in accordance with all applicable Federal, Commonwealth and local laws and regulations.

**VII. PROPOSED SCHEDULE**

EPA believes the following schedule is appropriate, manageable and consistent with the urgency of the situation for implementation of the above response activities. This schedule has been developed with input from the Trustees and Cerro. The Trustees have agreed to the schedule. Although, Cerro has already begun implementation of certain of the scheduled tasks, Cerro has not yet seen this schedule.

- o VI.1 should be implemented immediately and must be completed by April 15, 1994.
- o VI.2 should be implemented as soon as possible and no later than May 31, 1994.
- o VI.3 should be started as soon as possible and should be completed by November 31, 1995. However, the worst areas should be addressed first and addressed prior to corresponding streambank stabilization in the adjoining areas as scheduled below.
- o VI.4 should be implemented as soon as practicable and completed by May 31, 1994.
- o VI.5 should begin May 31, 1994 and be completed by April 15, 1995.
- o VI.6 should begin May 31, 1994 and be completed by April 15, 1995.
- o VI.7 should begin May 31, 1994 and be completed by April 15, 1995.
- o VI.8 should be implemented, as necessary, as soon as practicable upon Cerro identifying such areas.
- o VI.9 should begin as soon as practicable after necessary planning and approval. Certain of the tasks can and should be implemented beginning in 1994. Other tasks must be implemented beginning in 1995 after completion of necessarily preceding efforts. Others should be implemented as soon as practicable considering the urgency and complexity of the investigation.
- o VI.10 should be implemented, as appropriate, as soon as practicable considering the urgency of the situation and the complexity of the response measures.
- o VI.11 should be implemented as soon as possible pursuant to Federal Law.

**ATTACHMENT I**

**Letter from EPA to James Hendrick**  
dated March 25, 1993

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107-4431

Mr. James P. Hendrick, Vice President  
Cerro Metal Products  
P.O. box 388  
Bellefonte, PA 16823

MAR 25 1993

Re: Cerro Metals Site Assessment'

Dear Mr. Hendrick:

I had intended to write immediately following our initial inspection of the Cerro Metals Products Company ("Cerro") Facility ("Site") in Bellefonte, Pennsylvania on February 16 and 17, 1993. However, I have been involved in other matters. Thank you for the cooperation that you and your company showed us throughout the inspection and the advance planning. The inspection gave me valuable insights into the history of PCBs at your facility and the operations at your facility.

I understand that you had initial reservations regarding EPA becoming involved in the project. I hope you see potential for positive outcome from EPA involvement. Let me reiterate that EPA has no desire change the current regulatory process, if the current process can timely resolve any identified problems.

During the exit meeting, I covered several issues of which I felt you should be aware. I will briefly re-state the issues discussed. These issues may or may not be regulatory concerns, but EPA has not taken any regulatory or administrative positions regarding these issues at this time. Therefore, my comments are provided only for your edification and advisement. You are under no further obligation to address any of these issues at this time due to the issuance of this letter or due to my comments during our meeting in February. However, you are obliged to comply with all applicable Federal, State and local laws irrespective of my comments, the inspection or future assessment. EPA does reserve the right to undertake any action, including but not limited to, civil or administrative enforcement or response actions at any time such action is appropriate pursuant to Federal law in order to address these or any other issues.

The following are very positive observations I made:

- o It is evident that Cerro has undertaken significant efforts at attempting to address its environmental responsibilities. This was evident through Mr. Vaiana's knowledge of the regulations and the plans and documents we were shown.

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- o It is also evident that Cerro has undertaken considerable effort at attempting to identify and correct its PCB issues.
- o Cerro has undertaken efforts to prevent recurrence of problems with its sulfuric acid handling.
- o Cerro is in the business of recycling resources and has taken steps to recycle and reduce the generation of waste from its processes.
- o Specifically, Cerro has a comprehensive waste oil handling and recycling program.

The following observations were made regarding specific regulatory issues:

- o The SPCC plan available for review in February did not have an engineer's seal affixed to it. Cerro did submit a plan in March that did have an engineer's seal.
- o Several oil handling and storage areas and equipment did not have berms or containment features including the drum storage area, tanks reported to be out-of-service and an oil loading and off-loading area. Other areas where oil containers are temporarily stored, even indoor locations may also require containment.

The following observations regarding general safety or environmental issues were made. These observations are pertinent toward "best practice" and may not reflect a deficiency under current regulation or standard practice:

- o The facility operates on a narrow strip of property in two major long narrow buildings sandwiched between Logan Branch Creek and Pa. Route 144. Space is limited and operations are crowded. Avoidance of clutter and keeping walkways and aisles clear is important to safe access, including in the PCB storage area.
- o Currently, stormwater and other process liquids are drained to the waste water treatment system. Other areas of the Site do not drain to the treatment system. Due to the likelihood that pollutants, including heavy metals, may come in contact with surface water runoff from the facility, the "best" environmental practice would be to divert all facility surface water drainage to the treatment system. This surface water drainage may or may not have a current impact on Logan Branch. However, there is no buffer protecting Logan Branch from chronic or episodic contaminant runoff. Were a whole-facility runoff treatment system in place today, the above comment on SPCC containment might be obviated. However, specific drainage plans would be required in order to ascertain its impact on SPCC issues.

AR100200

Please feel free to notify me if the situation has changed on any of these issues.

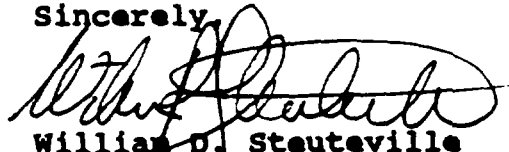
As regards the next phase of the assessment, the environmental sampling, the weather has precluded any thought of an early return to the Site. Barring any further weather delays I propose to return the week of April 12, 1993, with sampling activities beginning April 13, 1993. You have received a copy of my preliminary sampling plan. We welcome your comments on the assessment dates and the plan.

The important questions I hope to address by this sampling effort are 1) are there current/ongoing PCB discharges from the Site, 2) where are those discharges originating from, and 3) are there other pollutants being discharged? I do not know if these questions can be answered.

In order to better assess these potentials, it would be very useful to understand the drainage on your facility. You have already provided some drainage data to EPA. I was hoping you had identified more comprehensive drainage/topographical plans of the Site. Furthermore, if there exist any blue prints or plans showing below ground utilities, pipes, structures or other potential conduits for creating a discharge point, enhancing channelling or blocking the flow of water/oil beneath your buildings, into Logan Branch or perpendicular to or through the retaining wall along Logan Branch. An understanding of the construction and foundations of your main buildings would also be useful in this regard. If you could make any such plans or information available to us for the April 13, Site visit, it may help to more definitively resolve the aforementioned questions I hope to answer by the assessment.

If the weather is better, I expect a larger turn-out for this trip with more agencies represented. Thanks again for your cooperation. Please contact me at (215) 597-6678 if you have any questions.

Sincerely,



William D. Steuteville  
On-Scene Coordinator  
Superfund Removal Branch

cc: John Arway, PFBC  
Tom Schmick, PADER  
Cindy Rice, USFWS  
Larry Newcomer, PADER  
Chris Thomas, EPA

AR100201

**ATTACHMENT II**

**Multi-Media Sampling Plan**  
dated March 14, 1993

AR100202

MULTI-MEDIA SAMPLING PLAN  
for the

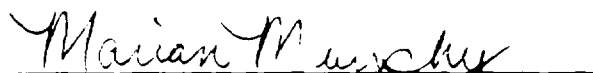
CERRO METAL PRODUCTS SITE  
PLANT #1, RT. 144  
BELLEFONTE, PA 16823

MARCH 14, 1993

Prepared by:  
EPA Region III Technical Assistance Team  
Roy F. Weston, Inc.  
TDD#:9302-06 PCS#:4333

For:  
Bill Steuteville, OSC  
U.S. EPA Region III  
Western Response Section  
Philadelphia, Pennsylvania

  
TAT SITE LEAD

  
TAT QA/QC OFFICER

AR100203

I. PROJECT DESCRIPTION

A. INTRODUCTION

This sampling plan was developed by members of the Roy F. Weston Technical Assistance Team (TAT) for Bill Steuteville, On-Scene Coordinator (OSC), United States Environmental Protection Agency (EPA) Region III, Western Response Section. The purpose of this sampling effort is to investigate possible contamination migration off-site due to current or past operations and/or practices at the Cerro Metal Products Bellefonte Works.

The Bellefonte Works is an active facility involved in the processing of brass. The site is located approximately one mile south of Bellefonte, Centre County, PA and runs along Route 144. The facility consists of three main operational buildings (Plant #1, 4, & 6), a steam plant, storage buildings, office buildings, a print shop, oil storage tanks and a wastewater treatment facility. The Logan Branch of Spring Creek runs alongside of the facility and actually passes through the facility at a point just north of Plant #1. A large unnamed tributary to the Logan Branch also borders the wastewater treatment plant and accepts the facility's NPDES-permitted water discharge.

The Cerro Metal Products Bellefonte Works operations flow from the south end of the facility towards the north. Plant #4 receives metal scraps and some virgin metals which are melted, blended and formed into ingots. The ingots are extruded to make brass bars which are manipulated by cold working, treating and cutting. Plant #1 accepts materials from Plant #4 and die casts and finishes the brass into various shapes. Plant #6 houses a machine shop that produces the dies used in the casting process. All process wastewaters are sent to the facility's treatment plant located at the north end of the property. The finished products of Cerro Metal Products include brass ingots, bars, rods, wires, specialty alloys and formed pieces.

AR100204

B. BACKGROUND

Cerro Metal Products was reported to the Superfund program via an ERNS incident notification submitted on February 2, 1993. The report was filed by John Arway of the Pennsylvania Fish and Boat Commission (PFBC). The area of concern was a sediment sample taken from the Logan Branch adjacent to the Cerro Metal Products property. The sample showed the presence of polychlorinated biphenyls (PCB's) at a level of 13.9 ppm. The Logan Branch is stocked with fish by the PFBC. Cerro Metal Products has also been the subject of discussion among various groups within the Hazardous Waste Management Division of the EPA. A combination of these factors prompted the EPA Superfund Removal Section to conduct a site assessment.

A file search indicated that Cerro Metal Products had been reported through the ERNS system several times in the past. These notifications concerned spills of nitrates, 1700 gallons of sulfuric acid and PCB's. The EPA TSCA section has also been involved with Cerro concerning their handling and disposal of PCB's.

C. OBJECTIVE

The objective of this sampling assessment is to determine if significant environmental contamination exists at the site and if an ongoing release of hazardous substances is creating a threat or potential threat or endangerment to public health, welfare or the environment.

D. SCOPE

TAT intends to collect composite sediment samples from the Logan Branch and its unnamed tributary that borders the Cerro wastewater treatment plant. Sample collection will begin in the Logan Branch upstream of the Cerro facility. Moving downstream, sediment samples will be collected approximately every 100 feet to a point 200 feet below where the Logan Branch meets the unnamed tributary. Sampling will then begin in the unnamed tributary upstream of the wastewater treatment discharge. Moving downstream, sediment samples will be collected every 100 feet until the tributary joins with the Logan Branch. At the discretion of the OSC, biased sediment samples will also be collected from locations with obvious oily stains or seeps coming from the Cerro property. Each sample will be collected using a stainless steel sample tube from 10 locations, homogenized in a clean aluminum container and placed in an 8-oz jar. An estimated 40 sediment samples will be analyzed for PCB's.

TAT also intends to collect PCB wipe samples from the floors of the operating buildings (Plant #1, 4, & 6) of the Bellefonte works. The wipe samples will be collected on a sterile gauze pad soaked with hexane. An area of 100 square centimeters will be wiped with a gauze pad, which will then be placed in an 8-oz jar. Wipe samples will be taken approximately every 100 feet through the plant buildings. Areas that are or have been used in PCB operations or show a visible stain will also be sampled at the discretion of the OSC. Approximately 30 wipe samples will be analyzed for PCB's.

An attempt will be made to identify and sample any discharge or seep from conduits, pipes, cracks in the foundation or other structures under the facility that may act as a pathway for contaminant migration off-site. Of particular interest will be surface soils, sediments and dusts from areas of surface water run-off into the Logan Branch. These sample locations and media will be identified by the OSC during the sampling event, and samples will be submitted for PCB, PP metals and/or PP organic analyses at the discretion of the OSC. Aqueous samples will be collected in 32-oz amber jars and preserved as required by the test methods. Soil/sediment samples will be collected in 8-oz jars. Samples to be submitted for PP organic analyses will include a sample in a 40-mL VOA vial.

AR100206

D. SCOPE (Continued)

Split samples from each location will be given to Cerro Metal Products representatives if requested. In the case of the wipe samples, a split sample will be obtained from a floor area directly adjacent to the sample location. A duplicate sample will be collected for every 20 samples of a particular medium per each analysis.

E. DATA USAGE

Results of the analysis of samples collected will be used to determine the extent of contamination migration off-site. The data may be utilized to determine the source of contamination, and may be utilized to determine if subsequent removal activities are warranted at the Cerro Metal Products Bellefonte Works.

F. MONITORING NETWORK DESIGN AND RATIONALE

Sampling at the Cerro Metal Products Site will be conducted as efficiently as possible in order to obtain a significant representation of the degree of contamination on and around the site. This sampling activity may serve as the basis for decision-making in the determination of actions necessary to mitigate any active or potential threat posed by the Site.

G. MONITORING PARAMETERS AND FREQUENCY OF COLLECTION

| MATRIX   | PARAMETERS                  | TEST METHOD   |
|----------|-----------------------------|---------------|
| Solid    | PP Metals/PP organics/PCB's | SW846 Methods |
| Liquid   | PP Metals/PP organics/PCB's | SW846 Methods |
| PCB Wipe | PCB's                       | SW846 8080    |

II. DATA QUALITY REQUIREMENTS AND ASSESSMENTS

Detection limits, quantitation limits, estimated accuracy, accuracy protocol, estimated precision, and precision protocol will all be maintained within the limits of the SW846 test methods.

AR100207

### III. SAMPLING PROCEDURES

#### A. SAMPLING EQUIPMENT

1. 8-oz clear wide mouth jars
2. 32-oz amber jugs
3. 40-mL VOA vials
4. Chain-of-custody forms
5. EPA Sample tags
6. Custody seals
7. Surgical gloves
8. Disposable sampling scoops
9. Zip-lock bags
10. Sediment sampler - Stainless steel pipe
11. Sterile Gauze
12. Wipe sample template (100 square centimeters)
13. 1-L Polypropylene bottles
14. Nitric Acid
15. pH paper
16. Methanol
17. Hexane
18. Decontamination equipment (buckets, brushes, Alconox, deionized water)
19. Quart and gallon metal cans
20. Vermiculite

#### B. DECONTAMINATION OF SAMPLING EQUIPMENT

Where possible, only disposable sampling equipment will be used. All non-disposable equipment will be cleaned in an Alconox-water solution and triple rinsed with distilled water.

When the sediment sampler is used, the instrument will be decontaminated using an Alconox-water solution. The tube will be triple rinsed with distilled water and then with methanol. The methanol rinse will be followed by a final distilled water rinse. The final water rinse will be collected in a 32-oz amber jug for PCB analysis as a rinsate blank as required by the test method QA/QC requirements.

C. SAMPLE HANDLING AND DECONTAMINATION

After the addition of a preservative (as required), all sample containers will be wiped dry and clean with a paper towel. The container will then be labeled with an adhesive label that contains the facility name, sample location, date and time of sample, the name of the sampler and the analysis to be performed. A completed EPA sample tag will be tied around the neck of each sample container. The container will then be placed in a ziplock bag. The sample will then be packed in a metal can with vermiculite. Samples with similar characteristics will be placed in appropriate bulk containers with ice where necessary. The containers will be properly labeled to display any hazards present. Samples will be accounted for on chain-of-custody forms and the forms will be included inside the bulk sample containers. Samples will be shipped to the laboratory by Federal Express.

D. QUALITY ASSURANCE/QUALITY CONTROL

Quality assurance and quality control protocols will follow SW846 methods for all samples. All samples submitted for organic and/or PCB analyses will require surrogate spike analysis per sample and analysis. Matrix spike/matrix spike duplicate (MS/MSD) analysis will be required for one of every ten samples of a matrix with a minimum of one MS/MSD analysis per matrix. Method blanks will be required per analysis. A duplicate sample will be collected for every 20 samples of a particular medium per each analysis.

AR100209

Amendments to  
MULTI-MEDIA SAMPLING PLAN  
for the  
CERRO METAL PRODUCTS SITE  
PLANT #1, RT. 144  
BELLEFONTE, PA 16823

April 14, 1993

I. PROJECT DESCRIPTION

B. BACKGROUND

Logan Branch is also noted to contain a recreationally significant wild trout population in addition to the previously mentioned stocked trout.

D. SCOPE

The scope of sediment sampling in the unnamed tributary to the Logan branch will be expanded to include samples taken in intervals smaller than the previously specified 100 feet. The interval will be chosen to properly characterize the sediments in the unnamed tributary.

Consideration will be given to taking sediment samples from various depositional areas in the Logan Branch below the confluence of the unnamed tributary and before the Logan Branch joins Spring Creek.

Sediment sampling techniques will be modified. All sediment samples will be obtained by "scooping" with a pre-cleaned 32 ounce jar. The contents of each "scoop" will be allowed to settle and the water decanted. The sediments will be placed in a cleaned aluminum pan and the "scooping" continued at the same location approximately three time or as many as necessary to achieve the desired sample volume. The collected sediments will be homogenized with a disposable scoop and placed into the proper containers.

AR100210

D. SCOPE (Continued)

Approximately three surface soil samples will be taken in both the North Yard area of the Cerro property and the area adjacent to the wastewater treatment facility. Samples will be collected with a disposable scoop and placed in an aluminum pan for homogenization before the samples are split. The North Yard samples will be analyzed for PCB's and the wastewater treatment facility area will be analyzed for both PCB's and metals.

An estimate of the number and types of samples to be taken is included in Attachment 1.

Should Cerro Metal Products Company choose to analyze split samples, the choice of analytical detection limits should be consistent with those for the test methods outlined in this sampling plan.

II. DATA QUALITY REQUIREMENTS AND ASSESSMENTS

No Changes.

III. SAMPLING PROCEDURES

A. SAMPLING EQUIPMENT

Delete:

10. Sediment sampler - Stainless steel pipe

Add:

10. 32-oz wide mouth jars

21. Aluminum pans

B. DECONTAMINATION OF SAMPLING EQUIPMENT

The sediment sampler will not be used so the decontamination procedure may be ignored.

The 32-oz wide mouth jars used in the place of the sediment sampler will be disposable and pre-cleaned.

C. SAMPLE HANDLING AND DECONTAMINATION

Sediment, wipe and unpreserved aqueous samples will be packaged, labeled and shipped as environmental samples.

Preserved aqueous samples will be properly packaged, labeled and shipped as limited quantities of dangerous goods as allowed by the IATA regulations.

AR100211

Attachment 1

Cerro Metal Products Sampling

Sampling to start on April 20, 1993

Samples

- |       |   |
|-------|---|
| 45-55 | Sediment samples from the Logan Branch and its tributary to be sent to CLP Lab for PCB analysis.  |
| 45-55 | Sediment samples from the Logan Branch and its tributary to be sent to another CLP Lab for Metals analysis.                                   |
| 45-55 | Sediment samples from the Logan Branch and its tributary to be sent to Quick Turn Method Lab for PCB analysis.                                |
| 45-55 | Sediment samples from the Logan Branch and its tributary to be offered to Cerro as split samples.   |
| 30-35 | PCB wipe samples from the floors of the Cerro buildings to be sent to SAS lab for PCB analysis.   |
| 30-35 | PCB wipe samples from the floors of the Cerro buildings to be offered to Cerro as split samples.  |
| 2-6   | Aqueous samples from the Logan Branch or any of its tributaries (including seeps) to an unknown lab for Priority Pollutant Organics analysis. |
| 2-6   | Aqueous samples from the Logan Branch or any of its tributaries (including seeps) to be offered to Cerro as split samples.                    |
| 5-10  | Aqueous samples specifically from seeps or facility run-off's into the Logan Branch or its tributary to an unknown lab for PCB analysis.      |
| 5-10  | Aqueous samples specifically from seeps or facility run-off's into the Logan Branch or its tributary to be offered to Cerro as split samples. |

AR100212

Amendments to  
MULTI-MEDIA SAMPLING PLAN  
for the  
CERRO METAL PRODUCTS SITE  
BELLEFONTE, PA 16823

JULY 6, 1993

I. PROJECT DESCRIPTION

D. SCOPE

The interval between sediment samples in the Logan branch will be changed to 200 feet. Sampling will begin in the Logan Branch where it enters Spring Creek and proceed upstream and past the Cerro Metals property. Biased samples will be acquired at the discretion of the OSC. Biased sediment samples will also be obtained in Spring Creek upstream and downstream of the entrance of Logan Branch.

AR100213

ATTACHMENT III  
PADER Analytical Data

AR100214

# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

|   |  |                                  |  |  |  |  |  |
|---|--|----------------------------------|--|--|--|--|--|
| ESTABLISHMENT<br><u>Logan Branch</u>  |  | CASE<br><u>Sta 1</u>             |  | FACILITY                               |  | COLL NUMBER                              |  |
| COUNTY<br><u>Centre</u>   |  | MUNICIPALITY<br><u>Spring Cr</u> |  | PROGRAM<br><u>Ken Hughey</u>           |  | TYPE TR<br><u>COC</u>                    |  |
| CARD (3)  |  | CODE (AL CAROSI 4-78)            |  | LATITUDE 4-10                          |  | LONGITUDE 11-18                          |  |
| DATE 19-24<br><u>07/07/93</u>   |  | TIME 25-28<br><u>0910</u>        |  | 4/NO 29<br><u>1</u>                    |  | RELATIVE POINT 58<br><u>2</u>            |  |
| USGS-Q 30-34  |  | BUREAU 35-37 AMIS                |  | SAMPLE NUMBER 38-43<br><u>04106485</u> |  | STREAM NAME 44-57<br><u>Logan Branch</u> |  |
| TRIBUTARY TO:<br><u>Spring Cr</u>   |  |                                  |  |  |  | ADDITIONAL LAB ANALYSES                  |  |
| FULL DESCRIPTION WHERE SAMPLE TAKEN<br><u>Approx 100 m upstr from Don Shawley excavating - mid stream</u> |  |                                  |  |  |  |  |  |

|  |  |                     |  |                            |  |
|--|--|---------------------|--|----------------------------|--|
| Type Sample<br>59-60 <u>01</u>   |  | Chemist             |  | Date Analyzed              |  |
| Source of Sample<br>61-62 <u>01</u>  |  | Color (00080)       |  | Total Solids (00500)       |  |
| Reason Sampled<br>63-64 <u>06</u>  |  | Turb (00070)        |  | Susp Solids (00530)        |  |
| Composite Sample<br>Proportional Uniform 65 <input type="checkbox"/>       |  | pH (00403)          |  | Set Solids (00545)         |  |
| Temporal Spatial 66 <input type="checkbox"/>                               |  | Spec Cond (00095)   |  | Total Diss Solids (00515)  |  |
| Aliquots 67-68 <u>01</u>   |  | Alk (00410)         |  | NO <sub>3</sub> -N (00515) |  |
| Flow<br>Estimated Measured 69 <input type="checkbox"/>                     |  | pH4 (00436)         |  | NO <sub>2</sub> -N (00520) |  |
| Condition Above - 1 Normal - 2 Flood - 5<br>Below - 3 No Flow - 4 <u>2</u> |  | pH5 (00436)         |  | NH <sub>4</sub> -N (00510) |  |
| Stream Flow-CFS (00081)  |  | TOC (00080)         |  | Kjeld-N (00525)            |  |
| Stream Flow-MGD (50081)  |  | COD (00340)         |  | Hardness (00500)           |  |
| Pipe Flow-MGD (50050)  |  | 5-Day BOD (00310)   |  | Ca (00515)                 |  |
| Gage Reading-Ft (00085)  |  | P (00085)           |  | Mg (00527)                 |  |
| Temp (C) (00010)   |  | Al-Tot ug/l (01108) |  | SO <sub>4</sub> (00546)    |  |
| pH (00409)   |  | Ca-Tot ug/l (01027) |  | Cl (00540)                 |  |
| DO (00309)   |  | Cr-Tot ug/l (01034) |  | F (00551)                  |  |
| Cl (50085)   |  | Cu-Tot ug/l (01042) |  | MSAS (35250)               |  |
| Br (71871)   |  | Fe-Tot ug/l (01048) |  | Phenols ug/l (48002)       |  |
| I (71888)  |  | Mn-Tot ug/l (01058) |  | Cyanide (00730)            |  |
| Spec Cond (00094)  |  | Ni-Tot ug/l (01057) |  |                            |  |
| Appearance (48001)   |  | Pb-Tot ug/l (01051) |  |                            |  |
| Odor (01338)   |  | Zn-Tot ug/l (01088) |  |                            |  |

CUSTODY LOG  
How Shipped US Cargo Date 7-7-93  
Legal Seal No. 254480  
Received by \_\_\_\_\_  
Condition of Seal \_\_\_\_\_

ORIGINAL

AR100215

— 100 —

[illegible][illegible]

| DEBIT  | DESCRIPTION      | DEBIT    | CREDIT | DEBIT | CREDIT | DATE    |
|--------|------------------|----------|--------|-------|--------|---------|
| 1000   | REG INTEREST     | 100.0000 | 100.00 | 1     | 100    | 7-18-93 |
| 10000  | REG INT - GAE    | 11.0000  | 100.00 | 8     | 100    | 7-18-93 |
| 10010A | REG-N            | 1.0000   | 100.00 | 8     | 100    | 7-18-93 |
| 10015A | REG-N            | 0.0000   | 100.00 | 8     | 100    | 7-18-93 |
| 10020A | REG-N            | 4.0000   | 100.00 | 8     | 100    | 7-18-93 |
| 10025A | REG-TOTAL        | 0.0000   | 100.00 | 8     | 100    | 7-18-93 |
| 10030  | REG INT - ORGANO | 1.0000   | 100.00 | 8     | 100    | 7-18-93 |
| 10040A | REG              | 10.0000  | 100.00 | 8     | 100    | 7-18-93 |

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 3

AR100216

# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

|                                      |  |   |  |  |  |                                      |  |
|--------------------------------------|--|---|--|--|--|--------------------------------------|--|
| ESTABLISHMENT<br><i>Logan Branch</i> |  | CASE<br><i>Sta 2</i>  |  | FACILITY                               |  | COLL NUMBER                          |  |
| COUNTY<br><i>Centre</i>              |  | MUNICIPALITY<br><i>Spring Twp</i>   |  | PROGRAM<br><i>Ken Hughey</i>           |  | TYPE TR                              |  |
| CARD 31<br><i>2</i>                  |  | D CODE ALL CARDS 418<br>Mun T Est Case  |  | LATITUDE 410<br><i>0</i>               |  | LONGITUDE 1218<br><i>070273</i>      |  |
| USGS-Q 30-34                         |  | BUREAU 35-37 AMIS   |  | SAMPLE NUMBER 38-43<br><i>04106486</i> |  | STREAM NAME 44-57<br><i>Logan Br</i> |  |
| TRIBUTARY TO:<br><i>Spring Cr.</i>   |  | FULL DESCRIPTION WHERE SAMPLE TAKEN<br><i>Approx 100 ft upstream from<br/>Cerro cutoff 002 - mid stream</i> |  | DATE 10-24<br><i>09</i>                |  | TIME 25-28<br><i>35</i>              |  |
| STANDARD ANAL                        |  | RELATIVE POINT 58<br><i>2</i>   |  | KIND 29                                |  | STANDARD ANAL                        |  |

|  |  |                       |  |                          |  |
|--|--|-----------------------|--|--------------------------|--|
| Type Sample<br>59-60 <i>01</i>   |  | Chemist               |  | Date Analyzed            |  |
| Source of Sample<br>61-62 <i>01</i>  |  | Color 00080           |  | Total Solids 00800       |  |
| Reason Sampled<br>63-64 <i>06</i>  |  | Turb 00070            |  | Susp Solids 00830        |  |
| Composite Sample<br>Proportional Uniform 65 <input type="checkbox"/>       |  | pH 00403              |  | Set Solids 00845         |  |
| Temporal Spatial 66 <input type="checkbox"/>                               |  | Spec Cond 00098       |  | Total Diss Solids 00815  |  |
| Aliquots 67-68 <i>01</i>   |  | Alk 00410             |  | NO <sub>3</sub> -N 00815 |  |
| Flow<br>Estimated Measured 69 <input type="checkbox"/>                     |  | pH4 00438             |  | NO <sub>2</sub> -N 00820 |  |
| Condition Above - 1 Normal - 2 Flood - 3<br>Below - 3 No Flow - 4 <i>2</i> |  | pH6 00438             |  | NH <sub>4</sub> -N 00810 |  |
| Stream Flow-CFS 00081  |  | TOC 00880             |  | Kjeld-N 00825            |  |
| Stream Flow-MGD 00081  |  | CO <sub>2</sub> 00348 |  | Hardness 00800           |  |
| Pipe Flow-MGD 00050  |  | 5-Day BOD 00310       |  | Ca 00818                 |  |
| Gage Reading-Ft 00088  |  | T 00888               |  | Mg 00827                 |  |
| Temp (C) 00010   |  | TO 00888              |  | SO <sub>4</sub> 00848    |  |
| pH 00400   |  | Al-Tot ug/l 01108     |  | Cl 00848                 |  |
| DO 00390   |  | Ca-Tot ug/l 01027     |  | F 00861                  |  |
| Cl (50080)   |  | Cr-Tot ug/l 01034     |  | MBAS 00888               |  |
| Br (71871)   |  | Cu-Tot ug/l 01042     |  | Phenols ug/l Dr (48002)  |  |
| I (71888)  |  | Fe-Tot ug/l 01048     |  | De (38738)               |  |
| Spec Cond 00084  |  | Mn-Tot ug/l 01088     |  | Cyanide 00728            |  |
| Appearance 00091   |  | Ni-Tot ug/l 01087     |  |                          |  |
| Odor 01338   |  | Pb-Tot ug/l 01081     |  |                          |  |
| How Shipped <i>US Cargo</i>  |  | Zn-Tot ug/l 01088     |  |                          |  |
| Legal Seal No. <i>254481</i>   |  |                       |  |                          |  |
| Received by  |  |                       |  |                          |  |
| Condition of Seal  |  |                       |  |                          |  |

ORIGINAL  
AR100217



8-8-13  
REV 1.82

Fixed Samples

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
BUREAU OF LABORATORIES

LAB Number \_\_\_\_\_

# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

Date Received \_\_\_\_\_

|   |                   |  |     |  |     |                                |                                  |
|---|-------------------|--|-----|--|-----|--------------------------------|----------------------------------|
| ESTABLISHMENT<br><i>Logan Branch</i>  |                   | CASE<br><i>Sta 3</i>                   |     | FACILITY                                 |     | COLL NUMBER                    |                                  |
| COUNTY<br><i>Centre</i>   |                   | MUNICIPALITY<br><i>Spring Gap</i>      |     | PROGRAM                                  |     | COLL NAME<br><i>Ron Hughey</i> |                                  |
| TYPE TR   |                   | STD ANALYSIS<br><i>CCC</i>             |     | DATE 19-24<br><i>07/07/93</i>            |     | TIME 25-28<br><i>1100</i>      |                                  |
| CARD 31<br><i>2</i>   | CITY              | STATE                                  | EST | CASE                                     | FAC | LATITUDE 4-10<br><i>0</i>      | LONGITUDE 11-18<br><i>070793</i> |
| USGS-O 30-34  | BUREAU 35-37 AMIS | SAMPLE NUMBER 38-43<br><i>04106487</i> |     | STREAM NAME 44-57<br><i>Logan Branch</i> |     | RELATIVE POINT 58<br><i>2</i>  |                                  |
| TRIBUTARY TO:<br><i>Spring Cr</i>   |                   |  |     |  |     | ADDITIONAL LAB ANALYSES        |                                  |
| FULL DESCRIPTION WHERE SAMPLE TAKEN<br><i>Adjacent to bend in Cerro plant #4 mid stream</i> |                   |  |     |  |     |                                |                                  |

| FIELD ANALYSES       |                        |                           |             | LAB ANALYSES                |  |  |  |
|----------------------|------------------------|---------------------------|-------------|-----------------------------|--|--|--|
| Type Sample          | 59-60                  | <i>01</i>                 | Chemist     | Date Analyzed <i>7/7/93</i> |  |  |  |
| Source of Sample     | 61-62                  | <i>01</i>                 | Color       | (00080)                     |  |  |  |
| Reason Sampled       | 63-64                  | <i>06</i>                 | Turb        | (00070)                     |  |  |  |
| Composite Sample     | 65                     |                           | PH          | (00400)                     |  |  |  |
| Proportional Uniform | 66                     |                           | Spec Cond   | (00086)                     |  |  |  |
| Temporal Spatial     | 68                     |                           | Alk         | (00410)                     |  |  |  |
| Aliquots             | 67-68                  | <i>01</i>                 | ph4         | (00436)                     |  |  |  |
| Flow                 | Estimated Measured     | 69                        | ph6         | (00436)                     |  |  |  |
| Condition            | Above - 1<br>Below - 3 | Normal - 2<br>No Flow - 4 | Hot         | (00608)                     |  |  |  |
| Stream Flow-CFS      | (00081)                |                           | Cold        | (00436)                     |  |  |  |
| Stream Flow-MGD      | (50081)                |                           | TOC         | (00880)                     |  |  |  |
| Pipe Flow-MGD        | (50050)                |                           | COD         | (00340)                     |  |  |  |
| Gage Reading-Ft      | (00088)                |                           | 5-Day BOD   | (00310)                     |  |  |  |
| Temp (C)             | (00010)                |                           | T           | (00888)                     |  |  |  |
| PH                   | (00400)                |                           | TD          | (00888)                     |  |  |  |
| DO                   | (00300)                |                           | Al-Tot ug/l | (01108)                     |  |  |  |
| Cl (50088)           |                        |                           | Ca-Tot ug/l | (01027)                     |  |  |  |
| Br (71871)           |                        |                           | Cu-Tot ug/l | (01034)                     |  |  |  |
| I (71888)            |                        |                           | Cu-Tot ug/l | (01042)                     |  |  |  |
| Spec Cond            | (00084)                |                           | Fe-Tot ug/l | (01046)                     |  |  |  |
| Appearance           | (48081)                |                           | Mn-Tot ug/l | (01086)                     |  |  |  |
| Odor                 | (01388)                |                           | Nb-Tot ug/l | (01087)                     |  |  |  |
| How Shipped          | <i>US Cargo</i>        | <i>7-7-93</i>             | Pb-Tot ug/l | (01081)                     |  |  |  |
| Legal Seal No.       | <i>254482</i>          |                           | Zn-Tot ug/l | (01088)                     |  |  |  |
| Received by          |                        |                           |             |                             |  |  |  |
| Condition of Seal    |                        |                           |             |                             |  |  |  |

ORIGINAL

AR100219

DEPARTMENT OF HEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAGE: 1

LABORATORY: 33507 RECEIVED: 7-18-93  
TOP SAMPLE NUMBER: 33507LE RECEIVED: 7-18-93

COLLECTOR: ROBERT D. HOFFER, JR. SAMPLING DATE: 7-17-93  
COLLECTOR NO.: 1471487 SAMPLING TIME: 10:15  
SITE: 33507-LEAD 100AN 33507-LEAD  
CASE NAME: 33507-LEAD  
FACILITY: 33507-LEAD  
ID CODE: 33507-LEAD  
POWER: 33507-LEAD

| TEST  | DESCRIPTION | RESULT   | UNIT | ANALYST | BY    | ANALYSIS DATE |
|-------|-------------|----------|------|---------|-------|---------------|
| 33507 | 33507-LEAD  | 335.0000 | MG/L | G       | 33507 | 7-17-93       |
| 33508 | 33507-LEAD  | 3.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33509 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33510 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33511 | 33507-LEAD  | 4.5700   | MG/L | G       | 33507 | 7-18-93       |
| 33512 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33513 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33514 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33515 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33516 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33517 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33518 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33519 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33520 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33521 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33522 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33523 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33524 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33525 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33526 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33527 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33528 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33529 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33530 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33531 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33532 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33533 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33534 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33535 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33536 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33537 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33538 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33539 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |
| 33540 | 33507-LEAD  | 1.0000   | MG/L | G       | 33507 | 7-18-93       |

TOTAL NUMBER OF TESTS FOR THIS SAMPLE: 3

AR100220

## WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MGA UNLESS OTHERWISE SPECIFIED

**Out to Lunch**

|  |  |                       |                            |                     |  |                   |  |            |                         |                         |  |
|--|--|-----------------------|----------------------------|---------------------|--|-------------------|--|------------|-------------------------|-------------------------|--|
| ESTABLISHMENT<br>Logan Branch  |  |                       | CASE<br>Sta 4              |                     |  | FACILITY          |  |            | COLL NUMP               |                         |  |
| COUNTY<br>Centre   |  |                       | MUNICIPALITY<br>Spring Twp |                     |  | PROGRAM           |  |            | COLL NAME<br>Ron Hughes |                         |  |
|  |  |                       |                            |                     |  |                   |  |            | TYPE TR                 |                         |  |
|  |  |                       |                            |                     |  |                   |  |            | STD ANALYSIS<br>ccc     |                         |  |
| CARD (3)   |  | D CODE ALL CARDS 1-18 |                            | LATITUDE 4-10       |  | LONGITUDE 11-18   |  | DATE 19-24 |                         | TIME 25-28              |  |
| City   |  | Mun                   |                            | Est                 |  | Case              |  | Fac        |                         | K NO 29                 |  |
| 2  |  |                       |                            |                     |  | 0                 |  | 0170793    |                         | 110301                  |  |
| USGS-Q 30-34   |  | BUREAU 35-37 AMIS     |                            | SAMPLE NUMBER 38-43 |  | STREAM NAME 44-57 |  |            |                         | RELATIVE POINT 58       |  |
|  |  |                       |                            | 0406488             |  | Logan Branch      |  |            |                         | 2                       |  |
| TRIBUTARY TO:<br>Spring Twp  |  |                       |                            |                     |  |                   |  |            |                         | ADDITIONAL LAB ANALYSES |  |
| FULL DESCRIPTION WHERE SAMPLE TAKEN<br>FF Bend in Cerro Plant #1, mid stream |  |                       |                            |                     |  |                   |  |            |                         |                         |  |

| FIELD ANALYSES    |                        |                           |             | LAB ANALYSES  |                    |  |  |                          |
|-------------------|------------------------|---------------------------|-------------|---------------|--------------------|--|--|--------------------------|
| Type Sample       | 59-60                  | 01                        | Chemist     | Date Analyzed |                    |  |  |                          |
| Source of Sample  | 61-62                  | 01                        | Color       | (00080)       | Total Solids       |  |  | (00600)                  |
| Reason Sampled    | 63-64                  | 06                        | Turb        | (00070)       | Susp Solids        |  |  | (00630)                  |
| Composite Sample  | Proportional Uniform   | 65                        | pH          | (00403)       | Set Solids         |  |  | (00645)                  |
|                   | Temporal Spatial       | 66                        | Spec Cond   | (00095)       | Total Diss Solids  |  |  | (00615)                  |
| Aliquots          | 67-68                  | 01                        | Alk         | (00410)       | NO <sub>3</sub> -N |  |  | (00615)                  |
| Flow              | Estimated Measured     | 69                        | pH4         | (00438)       | NO <sub>2</sub> -N |  |  | (00620)                  |
| Condition         | Above - 1<br>Below - 3 | Normal - 2<br>No Flow - 4 | Hot         | (70608)       | NH <sub>4</sub> -N |  |  | (00610)                  |
|                   |                        |                           | Cold        | (00438)       | Kjeld-N            |  |  | (00625)                  |
| Stream Flow-CFS   | (00081)                |                           | T.O.C       | (00880)       | Hardness           |  |  | (00800)                  |
| Stream Flow-MGD   | (50081)                |                           | C.O.D       | (00340)       | Ca                 |  |  | (00816)                  |
| Pipe Flow-MGD     | (50080)                |                           | 5-Day BOD   | (00310)       | Mg                 |  |  | (00827)                  |
| Gage Reading-Ft   | (00086)                |                           | T           | (00888)       | SQ                 |  |  | (00846)                  |
| Temp (C)          | (00010)                |                           | TD          | (00888)       | Cl                 |  |  | (00840)                  |
| pH                | (00409)                |                           | Al-Tot ug/l | (01108)       | F                  |  |  | (00861)                  |
| D.O               | (00300)                |                           | Ca-Tot ug/l | (01027)       | MBAS               |  |  | (00888)                  |
| Cl (50080)        |                        |                           | Cu-Tot ug/l | (01042)       | Phenols ug/l       |  |  | Dr (46088)<br>De (32730) |
| Br (71871)        |                        |                           | Fe-Tot ug/l | (01048)       | Cyanide            |  |  | (00720)                  |
| I (71888)         |                        |                           | Mn-Tot ug/l | (01068)       |                    |  |  |                          |
| Spec Cond         | (00084)                |                           | Ni-Tot ug/l | (01087)       |                    |  |  |                          |
| Appearance        | (46081)                |                           | Pb-Tot ug/l | (01081)       |                    |  |  |                          |
| Odor              | (01320)                |                           | Zn-Tot ug/l | (01088)       |                    |  |  |                          |
| CUSTODY LOG       |                        |                           |             |               |                    |  |  |                          |
| How Shipped       | HS Cargo               | 7-7-93                    |             |               |                    |  |  |                          |
| Legal Seal No.    | 254983                 | Date                      |             |               |                    |  |  |                          |
| Received by       |                        |                           |             |               |                    |  |  |                          |
| Condition of Seal |                        |                           |             |               |                    |  |  |                          |

**ORIGINAL**

AR100221



## WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

| ESTABLISHMENT  |                        | CASE                      | FACILITY          |                         | COLL NUMBER |            |
|--|------------------------|---------------------------|-------------------|-------------------------|-------------|------------|
| Logan Branch   |                        | Sta 5                     |                   |                         |             |            |
| COUNTY   | MUNICIPALITY           | PROGRAM                   | COLL NAME         | TYPE PR                 | SYD AN      |            |
| Centre   | Spring Twp             |                           | Ron Hughey        |                         | 000         |            |
| CARD 31  | CODE ALL               | AROSI 4-18                | LATITUDE 4-10     | LONGITUDE 11-18         | DATE 19-24  | TIME 25-28 |
| 2  | Only                   | Mun                       | T                 | Est                     | Care        | Fac        |
| USGS Q-30-34   | BUREAU 35-37 AMIS      | SAMPLE NUMBER 38-43       | STREAM NAME 44-57 | RELATIVE POINT 58       |             |            |
|  |                        | 0410164189                | Logan Branch      | 2                       |             |            |
| TRIBUTARY TO:  |                        |                           |                   | ADDITIONAL LAB ANALYSES |             |            |
| FULL DESCRIPTION WHERE SAMPLE TAKEN  |                        |                           |                   |                         |             |            |
| Upstream from Railroad bridge at lower end of Corra property approx 50 m. m.d stream |                        |                           |                   |                         |             |            |
| FIELD ANALYSES   |                        |                           |                   | LAB ANALYSES            |             |            |
| Type Sample  | 59-60                  | 01                        | Chemist           | Date Analyzed           |             |            |
| Source of Sample   | 61-62                  | 01                        | Color             | 000801                  |             |            |
| Reason Sampled   | 63-64                  | 06                        | Turb              | 000701                  |             |            |
| Composite Sample   | Proportional Uniform   | 65                        | pH                | 004001                  |             |            |
|  | Temporal Spatial       | 66                        | Spec Cond         | 000901                  |             |            |
| Aliquots   | 67-68                  | 01                        | Alk               | 004101                  |             |            |
| Flow   | Estimated Measured     | 69                        | pH4               | 004301                  |             |            |
| Condition  | Above - 1<br>Below - 3 | Normal - 2<br>No Flow - 4 | Hot               | 708001                  |             |            |
|  |                        |                           | Cold              | 004301                  |             |            |
| Stream Flow-CFS  | (00081)                |                           | T O C             | 000801                  |             |            |
| Stream Flow-MGD  | (50081)                |                           | C O D             | 000340                  |             |            |
| Pipe Flow-MGD  | (50080)                |                           | 5-Day BOD         | 000310                  |             |            |
| Gage Reading-Ft  | (00086)                |                           | T                 | 000801                  |             |            |
| Temp (C)   | (00010)                |                           | TD                | 000801                  |             |            |
| pH   | (00400)                |                           | Al-Tot ug/l       | (01108)                 |             |            |
| D O  | (00300)                |                           | Ca-Tot ug/l       | (01027)                 |             |            |
| Cl (50089)   |                        |                           | Cr-Tot ug/l       | (01034)                 |             |            |
| Br (71871)   |                        |                           | Cu-Tot ug/l       | (01042)                 |             |            |
| I (71888)  |                        |                           | Fe-Tot ug/l       | (01048)                 |             |            |
| Spec Cond  | (00084)                |                           | Mn-Tot ug/l       | (01086)                 |             |            |
| Appearance   | (48001)                |                           | Ni-Tot ug/l       | (01087)                 |             |            |
| Odor   | (01338)                |                           | Pb-Tot ug/l       | (01081)                 |             |            |
| How Shipped  | CUSTODY LOG 7-2-93     |                           | Zn-Tot ug/l       | (01082)                 |             |            |
| Legal Seal No.   | 254784                 |                           |                   |                         |             |            |
| Received by  |                        |                           |                   |                         |             |            |
| Condition of Seal  |                        |                           |                   |                         |             |            |

ORIGINAL

AR100223

## 333

[illegible]

| TEST   | DESCRIPTION    | RESULT   | COND | REF: | BY  | VERIFY DATE |
|--------|----------------|----------|------|------|-----|-------------|
| 0001E  | FEES CODE NONE | 149.0000 | MG/L | G    | DMN | 7/16/93     |
| 0002E  | FEES TIT NONE  | 16.0000  | MG/L | G    | DMN | 7/16/93     |
| 0001A  | NO3-N          | 0.0000   | MG/L | G    | DEM | 7/29/93     |
| 0001SA | NO3-N          | 0.0000   | MG/L | G    | DEM | 7/29/93     |
| 0002GA | NO3-N          | 1.0000   | MG/L | G    | DEM | 7/29/93     |
| 0006SA | P-DB-TOT-L     | 0.0000   | MG/L | G    | DEM | 7/16/93     |
| 0000E  | C TIT ORGANIC  | 1.0000   | MG/L | G    | DMN | 7/29/93     |
| 0000A  | CL             | 13.0000  | MG/L | G    | DEM | 7/29/93     |

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 3

AR100224

BR 813  
REV 1-82

Fixed Samples

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
BUREAU OF LABORATORIES

LAB Number

Date Received

# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

|                                      |  |  |  |                         |  |                                |  |
|--------------------------------------|--|--|--|-------------------------|--|--------------------------------|--|
| ESTABLISHMENT<br><b>Logan Branch</b> |  | CASE<br><b>Sta 6</b>                       |  | FACILITY                |  | COLL NUMBER                    |  |
| COUNTY<br><b>Centre Co</b>           |  | MUNICIPALITY<br><b>Spring Cr</b>           |  | PROGRAM                 |  | COLL NAME<br><b>Ron Hughes</b> |  |
| CARD 31                              |  | O CODE ALL CARDS 4-18                      |  | LATITUDE 4-10           |  | LONGITUDE 11-18                |  |
| DATE 19-24                           |  | TIME 25-28                                 |  | K NO 29                 |  | STD ANALYSIS                   |  |
| USGS-G 30-34                         |  | BUREAU 35-37 AMIS                          |  | SAMPLE NUMBER 38-43     |  | STREAM NAME 44-57              |  |
| Tributary to:                        |  | Full Description Where Sample Taken        |  | Additional Lab Analyses |  |                                |  |
|                                      |  | <b>Upstream PA 150 bridge approx 100 m</b> |  |                         |  |                                |  |
|                                      |  | <b>M.d. stream</b>                         |  |                         |  |                                |  |

| FIELD ANALYSES   |         |   |  | LAB ANALYSES |                 |                              |  |
|------------------|---------|---|--|--------------|-----------------|------------------------------|--|
| Type Sample      | 59-60   | 01  |  | Chemist      | Date Analyzed   |                              |  |
| Source of Sample | 61-62   | 01  |  | Color        | (00080)         | Total Solids (00800)         |  |
| Reason Sampled   | 63-64   | 06  |  | Turb         | (00070)         | Suspended Solids (00830)     |  |
| Composite Sample | 65      | Proportional Uniform                                    |  | pH           | (00403)         | Set Solids (00845)           |  |
|                  | 66      | Temporal Spatial  |  | Spec Cond    | (00086)         | Total Diss Solids (00815)    |  |
| Aliquots         | 67-68   | 01  |  | Alk          | (00610)         | NO <sub>3</sub> -N (00815)   |  |
| Flow             | 69      | Estimated Measured                                      |  | pH4          | (00436)         | NO <sub>2</sub> -N (00820)   |  |
| Condition        | 70      | Above - 1 Normal - 2 Flood - 5<br>Below - 3 No Flow - 4 |  | pH8          | (00608) (00435) | NH <sub>4</sub> -N (00810)   |  |
| Stream Flow-CFS  | (00081) |   |  | TOC          | (00880)         | Kjeld-N (00825)              |  |
| Stream Flow-MGD  | (50081) |   |  | COD          | (00340)         | Hardness (00800)             |  |
| Pipe Flow-MGD    | (50050) |   |  | 5-Day BOD    | (00310)         | Ca (00816)                   |  |
| Gage Reading-Ft  | (00086) |   |  | T            | (00886)         | Mg (00827)                   |  |
| Temp (C)         | (00010) |   |  | TD           | (00886)         | SO <sub>4</sub> (00846)      |  |
| pH               | (00400) |   |  | Al-Tot ug/l  | (01106)         | Cl (00840)                   |  |
| D.O.             | (00300) |   |  | Ca-Tot ug/l  | (01027)         | F (00851)                    |  |
| Cl (50080)       |         |   |  | Cu-Tot ug/l  | (01042)         | MBAS (38388)                 |  |
| Br (71871)       |         |   |  | Fe-Tot ug/l  | (01046)         | Phenols ug/l (48008) (32736) |  |
| I (71868)        |         |   |  | Mn-Tot ug/l  | (01088)         | Cyanide (00730)              |  |
| Spec Cond        | (00084) |   |  | Nb-Tot ug/l  | (01087)         |                              |  |
| Appearance       | (48001) |   |  | Pb-Tot ug/l  | (01081)         |                              |  |
| Odor             | (01398) |   |  | Zn-Tot ug/l  | (01082)         |                              |  |

How Shipped **Cargo** Date **7-1-93**  
 Legal Seal No. **254485**  
 Received by \_\_\_\_\_  
 Condition of Seal \_\_\_\_\_

ORIGINAL AR100225

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 DIVISION OF ENVIRONMENTAL RESOURCES

PAGE: 1

LABORATORY REPORT  
 FOR SAMPLE NUMBER 49108710

RECEIVED 7 18 93  
 REPORTED 7 18 93

COLLECTOR: RONALD B. FISHER 4074  
 COLLECTOR NO. 1411480  
 SITE-SUB-NAME: CITTAS BRANCH  
 DATE: 7/18/93  
 LOCATION: STATE  
 PROJECT: 1  
 STREAM CODE: 1  
 WATER FILE END

| TEST   | DESCRIPTION  | RESULT   | UNIT | VERIFY | BY  | VERIFY DATE |
|--------|--------------|----------|------|--------|-----|-------------|
| 00515  | PES DISS/105 | 133.0000 | MG/L | G      | DHN | 7/18/93     |
| 00530  | PES TOT NONE | 0.0000   | MG/L | G      | DHN | 7/13/93     |
| 00610A | NH3-N        | 0.0200   | MG/L | G      | HEM | 7/09/93     |
| 00615A | NH3-N        | 0.0140   | MG/L | G      | BLE | 7/09/93     |
| 00620A | NH3-N        | 0.0200   | MG/L | G      | BLE | 7/09/93     |
| 00655A | PHOS-TOTAL   | 0.0200   | MG/L | G      | EEV | 7/16/93     |
| 00680  | TOT ORGANIC  | 0.0000   | MG/L | G      | WVM | 7/09/93     |
| 00940A | CL           | 14.0000  | MG/L | G      | HEM | 7/09/93     |

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 8

AR100226

ER-01.13  
REV 1-82

Fixed Samples

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
BUREAU OF LABORATORIES

LAB Number

Date Received

# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

|   |                   |                                       |        |                                      |                                  |                                |  |
|---|-------------------|---------------------------------------|--------|--------------------------------------|----------------------------------|--------------------------------|--|
| ESTABLISHMENT<br><i>Logan Branch</i>  |                   | CASE<br><i>Sta 7</i>                  |        | FACILITY                             |                                  | COLL NUM                       |  |
| COUNTY<br><i>Centre</i>   |                   | MUNICIPALITY<br><i>Bellefonte</i>     |        | PROGRAM                              |                                  | COLL NAME<br><i>Kan Hughey</i> |  |
| DATE 19-24<br><i>01/07/93</i>   |                   | TIME 25-28<br><i>11:45</i>            |        | KIND 29<br><i>1</i>                  |                                  | STD ANAL<br><i>COE</i>         |  |
| CARD 31<br><i>2</i>   | City              | State                                 | County | Latitude 4-10<br><i>01</i>           | Longitude 11-18<br><i>070793</i> | TIME 25-28<br><i>11:45</i>     |  |
| USGS-Q 30-34  | BUREAU 36-37 AMIS | SAMPLE NUMBER 38-43<br><i>0406491</i> |        | STREAM NAME 44-57<br><i>Logan Br</i> |                                  | RELATIVE POINT 58<br><i>2</i>  |  |
| TRIBUTARY TO:<br><i>Spring Creek</i>  |                   |                                       |        |                                      |                                  | ADDITIONAL LAB ANALYSES        |  |
| FULL DESCRIPTION WHERE SAMPLE TAKEN<br><i>~ 50 m upstr. from confluence with Spring Cr mid-stream</i> |                   |                                       |        |                                      |                                  |                                |  |

| FIELD ANALYSES    |  |               |             | LAB ANALYSES                |                            |  |  |
|-------------------|--|---------------|-------------|-----------------------------|----------------------------|--|--|
| Type Sample       | 59-60  | <i>01</i>     | Chemist     | Date Analyzed<br><i>1/1</i> |                            |  |  |
| Source of Sample  | 61-62  | <i>01</i>     | Color       | (00080)                     | Total Solids (00500)       |  |  |
| Reason Sampled    | 63-64  | <i>06</i>     | Turb        | (00070)                     | Suspended Solids (00530)   |  |  |
| Composite Sample  | Proportional Uniform                                 | 65            | pH          | (00403)                     | Set Solids (00545)         |  |  |
|                   | Temporal Spatial                                     | 66            | Spec Cond   | (00095)                     | Total Diss Solids (00515)  |  |  |
| Aliquots          | 67-68  | <i>01</i>     | Alk         | (00410)                     | NO <sub>3</sub> -N (00815) |  |  |
| Flow              | Estimated Measured                                   | 69            | pH4         | (00438)                     | NO <sub>2</sub> -N (00820) |  |  |
| Condition         | Above - 1 Normal - 2 Flood - 3 Below - 4 No Flow - 4 | 70            | pH6         | (00436)                     | NH <sub>3</sub> -N (00810) |  |  |
|                   | CARD (2)   | <i>2</i>      | Hot Cold    | (00580)                     | K <sub>2</sub> O-N (00825) |  |  |
| Stream Flow-CFS   | (00081)  |               | T.O.C       | (00580)                     | Hardness (00800)           |  |  |
| Stream Flow-MGD   | (50081)  |               | C.O.D       | (00340)                     | Ca (00818)                 |  |  |
| Pipe Flow-MGD     | (50080)  |               | 5-Day BOD   | (00310)                     | Mg (00827)                 |  |  |
| Gage Reading-Ft   | (00086)  |               | T           | (00885)                     | SO <sub>4</sub> (00846)    |  |  |
| Temp (C)          | (00010)  |               | TO          | (00888)                     | Cl <sub>2</sub> (00849)    |  |  |
| pH                | (00400)  |               | Al-Tot ug/l | (01106)                     | F (00851)                  |  |  |
| D.O               | (00309)  |               | Ca-Tot ug/l | (01027)                     | MBAS (00859)               |  |  |
| Cl (50080)        |  |               | Cu-Tot ug/l | (01034)                     | Phenols ug/l               |  |  |
| Br (71671)        |  |               | Cu-Tot ug/l | (01042)                     | Dr (46802)                 |  |  |
| I (71688)         |  |               | Pb-Tot ug/l | (01046)                     | Os (38738)                 |  |  |
| Spec Cond         | (00084)  |               | Mn-Tot ug/l | (01086)                     | Cyanide (00738)            |  |  |
| Appearance        | (48081)  |               | Ni-Tot ug/l | (01087)                     |                            |  |  |
| Odor              | (01328)  |               | Pb-Tot ug/l | (01081)                     |                            |  |  |
| How Shipped       | CUSTODY LOG  | <i>7-7-93</i> | Zn-Tot ug/l | (01082)                     |                            |  |  |
| Legal Seal No.    | <i>456490</i>  | <i>254486</i> |             |                             |                            |  |  |
| Received by       |  |               |             |                             |                            |  |  |
| Condition of Seal |  |               |             |                             |                            |  |  |

ORIGINAL

AR100227

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES

DATE: 01

LABORATORY REPORT  
FOR SAMPLE NUMBER 0006700

RECEIVED 0408/93  
REPORTED 0710/93

COLLECTOR RONALD E. HUGHES 4074  
COLLECTOR NO. 0401451  
ESTABLISHMENT LOGAN BRANCH  
PARK NAME STA 1  
PRIORITY  
TO CODE  
SAMPLING DATE 7/10/93  
SAMPLING TIME 11:45  
STANDARD VIAL 100  
TIME CODE 1  
WQN  
STREAM CODE  
POWER MILE END

| TEST   | DESCRIPTION  | RESULT   | UNITS | ANALYST | BY  | ANALYST DATE |
|--------|--------------|----------|-------|---------|-----|--------------|
| 00515  | RES TOT SOLS | 142.0000 | MG/L  | 1       | CHN | 7/19/93      |
| 00520  | RES TOT SOLS | 2.0000   | MG/L  | 1       | CHN | 7/19/93      |
| 00610A | NH3-N        | 0.0000   | MG/L  | 1       | HEM | 7/09/93      |
| 00615A | NOC-N        | 0.0140   | MG/L  | 1       | SLE | 7/09/93      |
| 00620A | NOC-N        | 0.0000   | MG/L  | 1       | SLE | 7/09/93      |
| 00665A | PHOS-TOTAL   | 0.0000   | MG/L  | 1       | EEV | 7/16/93      |
| 00680  | 2 TOT ORGANO | 0.0000   | MG/L  | 1       | WQN | 7/09/93      |
| 00640A | CL           | 10.0000  | MG/L  | 1       | HEM | 7/09/93      |

TOTAL NUMBER OF TESTS FOR THIS SAMPLE 9

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# WATER OR WASTE QUALITY REPORT

ALL CHEMICAL ANALYSES EXPRESSED IN  
MG/L UNLESS OTHERWISE SPECIFIED

|  |              |                                   |                     |                      |                   |                                |            |
|--|--------------|-----------------------------------|---------------------|----------------------|-------------------|--------------------------------|------------|
| ESTABLISHMENT<br><b>UNIT Logan Branch</b>  |              | CASE<br><b>Sta 8</b>              |                     | FACILITY             |                   | COLL NUMBER                    |            |
| COUNTY<br><b>Centre</b>  |              | MUNICIPALITY<br><b>Spring Twp</b> |                     | PROGRAM              |                   | COLL NAME<br><b>Ron Hughes</b> |            |
| DATE 1-9-24  |              | TIME 25-28                        |                     | KIND 28              |                   | STD ANAL<br><b>00C</b>         |            |
| CARD 31  | Q CODE       | AN                                | CARD 4-18           | LATITUDE 4-10        | LONGITUDE 11-13   | DATE 1-9-24                    | TIME 25-28 |
| 1  | Only         | Mun                               | Est                 | Case                 | Fac               | M                              | D          |
| 2  |              |                                   |                     |                      |                   | 012                            | 012913     |
| USGS-Q 30-34   | BUREAU 35-37 | AMIS                              | SAMPLE NUMBER 38-43 | STREAM NAME 44-57    | RELATIVE POINT 58 |                                |            |
|  |              |                                   | <b>0141064192</b>   | <b>UNIT Logan Br</b> | <b>2</b>          |                                |            |
| TRIBUTARY TO:<br><b>Spring Creek</b>   |              |                                   |                     |                      |                   | ADDITIONAL LAB ANALYSES        |            |
| FULL DESCRIPTION WHERE SAMPLE TAKEN<br><b>Downstream from Cerro out fall 001<br/>offices 300 ft just upstr from Logan Br.<br/>mid stream</b> |              |                                   |                     |                      |                   |                                |            |

| FIELD ANALYSES   |                        |                           |             | LAB ANALYSES  |  |                          |            |
|------------------|------------------------|---------------------------|-------------|---------------|--|--------------------------|------------|
| Type Sample      | 59-60                  | <b>01</b>                 | Chemist     | Date Analyzed |  |                          |            |
| Source of Sample | 61-62                  | <b>01</b>                 | Color       | (00080)       |  | Total Solids             | (00500)    |
| Reason Sampled   | 63-64                  | <b>06</b>                 | Turb        | (00070)       |  | <b>Total Solids</b>      | (00530)    |
| Composite Sample | Proportional Uniform   | 65                        | pH          | (00403)       |  | Sol Solids               | (00545)    |
|                  | Temporal Spatial       | 66                        | Spec Cond   | (00095)       |  | <b>Total Diss Solids</b> | (00615)    |
|                  | Aliquots               | 67-68                     | Alk         | (00410)       |  | <b>NO,N</b>              | (00615)    |
| Flow             | Estimated Measured     | 69                        | pH4         | (00436)       |  | <b>NO,N</b>              | (00620)    |
| Condition        | Above - 1<br>Below - 3 | Normal - 2<br>No Flow - 4 | pH8         | (00436)       |  | <b>NO,N</b>              | (00610)    |
|                  |                        |                           | Hot         | (00608)       |  | <b>NO,N</b>              | (00610)    |
|                  |                        |                           | Cold        | (00436)       |  | Kiel-N                   | (00625)    |
| Stream Flow-CFS  | (00081)                |                           | <b>TOC</b>  | (00680)       |  |                          |            |
| Stream Flow-MGD  | (50051)                |                           | COO         | (00340)       |  | Hardness                 | (00800)    |
| Pipe Flow-MGD    | (50050)                |                           | 5-Day BOD   | (00310)       |  | Ca                       | (00818)    |
| Gage Reading-Ft  | (00086)                |                           | <b>P</b> T  | (00886)       |  | Mg                       | (00827)    |
| Temp (C)         | (00010)                |                           | TD          | (00886)       |  | SO <sub>4</sub>          | (00846)    |
| pH               | (00400)                |                           | Al-Tot ug/l | (01108)       |  | <b>Cl</b>                | (00849)    |
| DO               | (00300)                |                           | Ca-Tot ug/l | (01027)       |  | F                        | (00861)    |
|                  | Cl (50080)             |                           | Cu-Tot ug/l | (01034)       |  | MBAS                     | (00869)    |
| Mer              | Br (71871)             |                           | Fe-Tot ug/l | (01046)       |  | Phenols                  | Dr (46802) |
|                  | I (71888)              |                           | Mn-Tot ug/l | (01056)       |  | up/l                     | Da (32739) |
| Spec Cond        | (00084)                |                           | Ni-Tot ug/l | (01057)       |  | Cyanide                  | (00720)    |
| Appearance       | (48091)                |                           | Pb-Tot ug/l | (01061)       |  |                          |            |
| Odor             | (01330)                |                           | Zn-Tot ug/l | (01082)       |  |                          |            |

**CUSTOMER LOG**  
How Shipped **AS Carried** Date **7-1997**  
Legal Seal No. **3544/87**  
Received by \_\_\_\_\_  
Condition of Seal \_\_\_\_\_

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1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971). The concentration of chlorophylls was expressed as  $\mu\text{g mL}^{-1}$  of the sample.

— — — — —

4531-4532

0.4

AR100230

| Sta | TDS | SS   | NH <sub>3</sub> | NO <sub>2</sub> | NO <sub>3</sub> | P    | TOC  | C <sub>1</sub> |
|-----|-----|------|-----------------|-----------------|-----------------|------|------|----------------|
| 1   | 310 | 12   | .03             | .03             | 4.57            | .04  | 1.4  | 15             |
| 2   | 298 | 12   | .02             | .03             | 4.81            | .03  | 1.3  | 14             |
| 3   | 335 | 9    | .02             | .03             | 4.57            | .03  | 1.3  | 14             |
| 4   | 293 | 13   | <.02            | .03             | 4.33            | .03  | 1.2  | 14             |
| 5   | 248 | 16   | .02             | .02             | 3.85            | .03  | <1.0 | 13             |
| 6   | 253 | 5    | <.02            | .01             | 3.62            | .02  | <1.0 | 14             |
| 7   | 242 | <2.0 | <.02            | .01             | 3.62            | .02  | <1.0 | 1              |
| 8   | 158 | <2   | <.02            | .00             | 1.56            | <.02 | <1.0 | 16             |

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**ATTACHMENT IV**

**Weston Report**

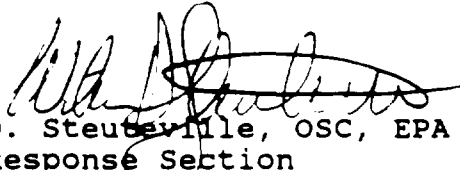
**AR100232**



5 Underwood Court  
Delran, NJ 08075

Phone: 609-461-4003  
Fax: 609-461-4916

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION  
EPA CONTRACT 68-WO-0036

  
TO: William D. Steuteville, OSC, EPA Region III  
Western Response Section  
  
THRU: Mike Zickler, TATL, Region III *MB/ML* TDD# 9308-06C  
PCS# 4830  
  
FROM: Art Saunders, TAT Region III *Sid* *AS*  
  
SUBJECT: Trip Report  
Cerro Metal Products Site  
Bellefonte, Centre County, Pennsylvania

#### BACKGROUND

Members of the Roy F. Weston Technical Assistance Team (TAT) were directed by United States Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) Bill Steuteville to perform a sampling assessment at Cerro Metal Products Bellefonte Works (site; Cerro) in Bellefonte, Centre County, Pennsylvania, on February 2, 1993. This assessment was conducted to evaluate potential threats to human, fish, and wildlife health due to suspected heavy metals and PCB contamination in the Logan Branch of Spring Creek and its unnamed tributary (tributary) resulting from operations, releases, and/or spills from the Cerro Metal Products Bellefonte Works.

The Bellefonte Works is an active brass processing facility located approximately one mile south of Bellefonte, Centre County, Pennsylvania, along Route 144. The facility consists of three main operational buildings (Plants 1, 4, and 6), a steam plant, storage buildings, office buildings, a print shop, oil storage tanks and a wastewater treatment facility. The Logan Branch of Spring Creek runs alongside of the facility and actually passes through the facility at a point just north of Plant 1. A large unnamed tributary to the Logan Branch borders the wastewater treatment plant and receives the facility's NPDES-permitted water discharge.

Roy F. Weston, Inc.

MAJOR PROGRAMS DIVISION

In Association with Foster Wheeler Enviroresponse, Inc., Resource Applications, Inc., C.C. Johnson & Malhotra, P.C., R.E. Sarriera Associates, and GRB Environmental Services, Inc.

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Operations for the Cerro Metal Products Bellefonte Works flow from the south end of the facility towards the north. Plant 4 receives metal scraps and some virgin metals which are melted, blended and formed into ingots. The ingots are extruded to make brass bars which are manipulated by cold working, treating and cutting. Plant 1 accepts materials from Plant 4 and die casts and finishes the brass into various shapes. Plant 6 houses a machine shop that produces the dies used in the casting process. All process wastewaters are sent to the facility's treatment plant located at the north end of the property. The plant's finished products include brass ingots, bars, rods, wires, specialty alloys and formed pieces.

#### RESPONSE HISTORY

Cerro Metal Products entered the Superfund program via an ERNS incident notification submitted on February 2, 1993. The report was filed by John Arway of the Pennsylvania Fish and Boat Commission (PFBC). The area of concern was identified by a sediment sample taken from the Logan Branch adjacent to the Cerro Metal Products property. The sample showed the presence of polychlorinated biphenyls (PCB's) at a level of 13.9 ppm. The Logan Branch holds a recreationally significant population of native trout, and is stocked with fish by the PFBC. Cerro Metal Products has also been the subject of discussion among various groups within the Hazardous Waste Management Division of EPA Region III. A combination of these factors prompted the EPA Region III Superfund Removal Branch to conduct a site assessment.

A file search indicated that Cerro Metal Products had been reported through the ERNS system several times in the past. These notifications concerned spills of nitrates, 1700 gallons of sulfuric acid, and PCB's. The EPA Region III TSCA Section has also been involved with Cerro concerning their handling and disposal of PCB's.

#### ACTIONS TAKEN

On Tuesday, February 16, 1993, OSC Steuteville, TAT, Pennsylvania Department of Environmental Resources (PADER), PFBC, and U.S. Fish and Wildlife Service (USFWS) representatives met at the PFBC Pleasant Gap facility to develop a plan of action for a thorough site assessment that would address the goals of all agencies involved with the site. When the meeting adjourned, the OSC and TAT visited the Cerro Metal facility. A tour of the operational buildings was conducted to identify possible routes of contaminant

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migration. OSC Steuteville completed a multi-media inspection and requested from Cerro representatives documentation concerning site permitting status and waste handling operations. The OSC informed Cerro that a Spill Containment, Control, and Countermeasure (SPCC) inspection would be conducted the next day.

The OSC and TAT returned to the Cerro facility on Wednesday, February 17, 1993, for a continuation of the detailed visual inspection of the site. A representative of the 8-A TAT office assisted the OSC in conducting the site SPCC inspection. TAT compiled and reviewed the information submitted by Cerro. Due to heavy snow conditions, only two samples were taken. One oil sample was obtained from the facility "Die Cast Sump", located in Plant 1, which recovers oil from an interceptor trench installed onsite. The second sample which contained water with a sheen, was taken from a lot drainage sump that discharges directly to the Logan Branch. The OSC conducted an exit interview with Cerro representatives and commented on site operational practices as well as the direction of future sampling assessments at the site.

On Monday, April 19, 1993, OSC Steuteville and TAT mobilized to the Cerro Metal Products site and met with Cerro representatives to set an agenda for sampling operations. On Tuesday, April 20, 1993, OSC and TAT met with PFBC representatives at 0800 to discuss EPA's sampling plans. At 0900 hours, the OSC and TAT met Cerro representatives Jim Vaiana, Fred Ackerman, and Jim Hendrick, as well as Mark Herish (PFBC), John Sengel (PADER), and Cindy Rice (USFWS). The group toured the unnamed tributary to Logan Branch behind the Cerro facility, and the OSC marked biased sampling points. TAT commenced sampling the sediment in the unnamed tributary at 80-foot intervals and at all locations marked by the OSC. A total of 12 sediment samples were collected. Sampling continued through Thursday April 22, 1993, for a total of 17 soil samples, 31 wipe samples, 2 oil samples and 4 aqueous samples collected in addition to the sediment samples. Split samples for Cerro Metal Products were collected at all locations. Sampling of Logan Branch was not possible at this time due to high water levels.

All EPA samples were analyzed for PCBs, and all but the wipe samples were analyzed for metals, in addition the water and one oil sample were also analyzed for volatile organics semivolatile organics and pesticides. Twenty of the sediment and soil samples which were sent for metals and PCB analysis were also sent for PCB analysis through the Quick Turnaround Methods (QTM) for the US EPA Contract Laboratory Program (CLP) to see how it would work in Region III.

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On Thursday April 22, 1993, the OSC conducted an exit interview with Cerro representatives and discussed future sampling plans. On Friday April 23, 1993, TAT relinquished custody of the split samples to Cerro representatives.

As a result of the PCB concentrations found in the soil samples taken in April, Cerro Metals excavated and removed PCB-contaminated soils from the north yard of the property.

Between July 6 and 8, 1993, Spring Creek and Logan Branch were sampled. Split samples were collected at all locations. TAT collected a total of 34 sediment samples at 200-foot intervals, from the entrance of the Logan Branch into Spring Creek to the upstream side of the Cerro facility. An additional three sediment samples were collected at 400-foot intervals upstream of the Cerro facility. All samples were analyzed for PCBs and metals. The OSC, PADER and PFBC designated an additional 11 biased sampling points which were collected by TAT. Of the biased samples, all were analyzed for PCBs; four of these samples were analyzed for metals. In addition, extra samples from two locations were collected and analyzed for volatile organics, semivolatile organics and pesticide/PCBs. Sediment samples were also collected from Spring Creek, two upstream of the entrance of Logan branch and two downstream. These four samples were analyzed for PCBs and metals. During the sampling event, PADER collected water samples for water quality and fecal coliform analysis to supplement the EPA analytical results. The split samples were relinquished to Cerro Metals on July 8, 1993.

#### REMOVAL ACTION LEVELS

Toxicologists in EPA Region III have established Emergency Removal Guidelines for some of the compounds found at the Cerro Metals Site. These levels are generally based on human exposure for industrial and residential soil ingestion and may vary up and down due to site specific conditions such as for industrial areas, residential areas or sensitive aquatic environments (eg: Logan Branch which is used as a fishing stream.) Attached is a table of residential soil ingestion EPA Region III Emergency Removal Guidelines. The EPA Removal Action Level at an industrial site is 50 ppm for PCBs and 500 ppm for lead. In addition, the State of Pennsylvania has specific Appropriate or Relevant and Applicable Regulations (ARARs) for PCBs in sediment which state the clean up level for fishing streams to be 1 ppm.

#### ANALYTICAL RESULTS

Attached is a sample analysis results summary for all sampling

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events and sample location maps for the April and July sampling events, with the lead and PCB contaminated areas highlighted. No PCBs were found in the February 1993 samples. The results for the samples sent for PCB analysis through CLP QTM were rejected because the QA/QC did not meet criteria. PCB levels in the April 1993 soil samples ranged from 110 ppb to 64,000 ppb; the highest levels were found at the northern end of the plant where the soil is reported to have been removed. PCB levels in the April 1993 sediment samples ranged from 12 ppb to 2200 ppb, with the highest levels located in the area next to the fence by the wastewater plant that discharges into the unnamed tributary of Logan Branch. The lead levels in both the soil and sediment samples taken in April 1993 ranged from 20 ppm to 7400 ppm. The sediment samples with the highest lead concentrations were found in the area having the highest PCB concentrations. The sediment samples collected in July 1993 from Logan Branch contained levels of PCBs from 100 ppb to 380,000 ppb, with only one sediment level above the 50,000 ppb (50 ppm) action level for industrial soil. The elevated levels of PCBs (above 1000 ppb or 1 ppm) were all located in Logan Branch within the Cerro boundaries. The lead levels for the sediment samples ranged from 15 ppm to 9560 ppm, with all levels exceeding the EPA industrial action level of 500 ppm being located in Logan Branch within the Cerro property. The results of the PCB wipe samples taken in Plants 1 and 4 ranged from not detected to 28 ug for a 100 cm<sup>2</sup> area.

#### FUTURE ACTIONS

Future actions at the Cerro Metal Products Bellefonte Works have yet to be determined. If TAT can be of further assistance, please call the TAT office.

Attachments: EPA Region III Emergency Removal Guidelines  
Sample Results Summary  
Site Location Map  
Sample Location Map, April 20-22, 1993  
Sample Location Map, July 6-8, 1993  
Photodocumentation

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## EPA REGION III EMERGENCY REMOVAL GUIDELINES

Units reported in mg/Kg or parts per million

| COMPOUND                         | RESIDENTIAL SOIL INGESTION | INDUSTRIAL SOIL INGESTION | FISH INGESTION |
|----------------------------------|----------------------------|---------------------------|----------------|
| POLYCHLORINATED BIPHENYLS (PCBs) | 27 mg/Kg                   | 50 mg/Kg*                 | 0.041 mg/Kg    |
| LEAD                             | 110 mg/Kg                  | 500 mg/Kg*                | 1.9 mg/Kg      |
| ARSENIC                          | 230 mg/Kg                  | 3100 mg/Kg                | 4.1 mg/Kg      |
| CHROMIUM (TOTAL)                 | 780000 mg/Kg               | 100000 mg/Kg              | 14000 mg/Kg    |
| CHROMIUM (HEXAVALENT)            | 3900 mg/Kg                 | 51000 mg/Kg               | 68 mg/Kg       |
| COPPER                           | 29000 mg/Kg                | 380000 mg/Kg              | 500 mg/Kg      |
| MANGANESE                        | 3900 mg/Kg                 | 51000 mg/Kg               | 68 mg/Kg       |
| ZINC                             | 230000 mg/Kg               | 100000 mg/Kg              | 4100 mg/Kg     |

\* EPA Removal Action Levels

Note aluminum, calcium, iron and magnesium do not have calculated emergency removal levels.

This does not mean they do not pose a risk in environmentally sensitive areas.

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**CERRO METAL PRODUCTS SITE**  
**METALS RESULTS FOR APRIL 1993 SOIL AND SEDIMENT SAMPLING**

All results reported in mg/Kg (ppm) on a dry weight basis

| SAMPLE<br>NUMBER | Al    | As       | Cs       | Cr      | Cu      | Fe      | Pb     | Mg       | Mn     | Zn       |
|------------------|-------|----------|----------|---------|---------|---------|--------|----------|--------|----------|
| TS-1             | 2840  | 4.5 L    | 19200    | 24.9    | 408 J   | 9240 J  | 109    | 4910 J   | 227    | 699 J    |
| TS-2             | 6370  | 6.4 L    | 8950     | 66.3    | 226 J   | 14200 J | 60.3   | 3670 J   | 167    | 271 J    |
| TS-3             | 10000 | 4.2 L    | 4390     | 19.4    | 25.7 J  | 15500 J | 16.7 K | 3030 J   | 216    | 61 J     |
| TS-4             | 8190  | [2.8] L  | 5010     | 15.5    | 16.2J   | 10400 J | 11.5 K | 3890 J   | 65     | 35.1 J   |
| TS-5             | 5150  | 4.5 L    | 5860     | 220     | 761 J   | 8340 J  | 55     | 2320 J   | 83.9   | 587 J    |
| TS-6             | 3280  | 4.3 L    | 29900    | 168     | 877 J   | 9100 J  | 126    | 7060 J   | 208    | 540 J    |
| TS-7             | 1260  | [2.1] L  | 133000   | 7.6     | 151 J   | 4600 J  | 30.2   | 3090 J   | 63.3   | 179 J    |
| TS-8             | 2160  | [2.3] B  | 49100    | 22.1    | 165 J   | 4950 J  | 87.1   | 4280 J   | 26.6   | 238 J    |
| TSB-1            | 11500 | 6.4 L    | 4350     | 24.8    | 26.8 J  | 15400 J | 16 K   | 3110 J   | 129    | 59.8 J   |
| TSB-2            | 12200 | 9.0 L    | 5710     | 24.4    | 104 J   | 18600 J | 21.7 K | 3860 J   | 594    | 133 J    |
| TSB-3            | 6340  | [4.2] L  | 3360     | 70.7    | 94 J    | 6730 J  | 22.7 K | [1820] J | 55.8   | 140 J    |
| TSB-4            | 822   | [0.99] B | 84300    | 590     | 718 J   | 1450 J  | 93.2   | [761] J  | 60.7   | 1590 J   |
| TSB-5            | 8050  | [7.2] B  | 31900    | 1210    | 4660 J  | 16100 J | 625    | [9760] J | 111    | 2750 J   |
| TSB-6            | 4080  | [4.3] L  | 17100    | 304     | 881 J   | 5810 J  | 131    | [2530] J | 160    | 702 J    |
| SS-1             | 9090  | 7.4 L    | 203000   | 1630    | 4920 J  | 14000 J | 608    | 19800 J  | 562    | 6190 J   |
| SS-2             | 4540  | 3.6 L    | 171000   | 224     | 22100 J | 8470 J  | 6990   | 4950 J   | 219    | 15000 J  |
| SS-3             | 10300 | 20.9 L   | 157000   | 1910    | 8530 J  | 34800 J | 1070   | 5950 J   | 296    | 9690 J   |
| SS-4             | 2140  | 3.1 L    | 91100    | 35.2    | 20900 J | 7800 J  | 1700   | 7140 J   | 196    | 20900 J  |
| SS-5             | 4270  | 8.4 L    | 110000   | 63.4    | 69700 J | 15000J  | 4390   | 12100 J  | 446    | 43700 J  |
| SS-6             | 15000 | 4.9 L    | 273000   | 147     | 5690 J  | 17900 J | 1040   | 4370 J   | 495    | 5410 J   |
| SS-7             | 8570  | 14.3 L   | 129000 J | 368 J   | 10500   | 36200 J | 2130 J | 4680     | 772 J  | 22800 J  |
| SS-8             | 5610  | 5.1 L    | 112000 J | 10800 J | 58300   | 6950 J  | 4190 J | 4940     | 228 J  | 97400 J  |
| SS-9             | 21700 | 6.2 L    | 135000 J | 28.6 J  | 2090    | 14900 J | 297 J  | 3690     | 2460 J | 5260 J   |
| SS-10            | 10000 | 5.9 L    | 61100 J  | 42.3 J  | 1440    | 20900 J | 237 J  | 2640     | 672 J  | 3110 J   |
| SS-11            | 10500 | 3.7 L    | 196000 J | 22 J    | 4620    | 9270 J  | 326 J  | 14800    | 658 J  | 4070 J   |
| SS-12            | 4680  | 2.8 L    | 198000 J | 21.9 J  | 23600   | 8590 J  | 1080 J | 21100    | 306 J  | 13700 J  |
| SS-13            | 6070  | 10.1 L   | 67900 J  | 33.4 J  | 173000  | 17000 J | 7840 J | 12800    | 534 J  | 129000 J |
| SS-14            | 11900 | 7.4 L    | 50500 J  | 37.4 J  | 6850    | 21700 J | 439 J  | 9110     | 533 J  | 6690 J   |
| SS-15            | 8900  | 4.5 L    | 2890 J   | 191 J   | 402     | 55500 J | 940 J  | 1760     | 168 J  | 709 J    |
| SS-16            | 8270  | 6.2 L    | 6110 J   | 55.6 J  | 521     | 54900 J | 470 J  | 1810     | 184 J  | 873 J    |
| SS-17            | 7500  | 8.8      | 32000    | 43      | 18000   | 29000   | 7400   | 12000    | 1200   | 14000    |
| SS-18            | 1800  | 2.1      | 51000    | 63      | 17000   | 7800    | 2700   | 3800     | 170    | 44000    |

**Qualifiers**

[ ] - Analyte present. As values approach the IDL the quantitation may not be accurate.

B - Not detected substantially above the level reported in laboratory of field blanks.

J - Analyte present. Reported value may not be accurate or precise.

L - Analyte present. Reported value may be biased high. Actual value is expected to be lower.

AR100239

# CERRO METAL PRODUCTS SITE

## APRIL 1993 WIPE SAMPLING RESULTS

(Results reported in ug/wipe, a 100 square centimeter surface was wiped.)

(To convert to ug/cm2, divide the answer by 100.)

(Samples were taken at 100-foot intervals starting at the northern most part of the building and working south.)

### PLANT - 1

| SAMPLE<br>NUMBER | AROCHLOR<br>-1248 |
|------------------|-------------------|
| WP1-1            | 3.0 J             |
| WP1-2            | 3.2 J             |
| WP1-3            | 1.9 J             |
| WP1-4            | 1.0 UJ            |
| WP1-5            | 1.0 UJ            |
| WP1-6            | 1.0 R             |
| WP1-7            | 1.0 UL            |
| WP1-8            | 1.0 UL            |
| WP1-9            | 1.0 U             |
| WP1-10           | 1.0 U             |
| WP1-11           | 3.6 J             |
| WP1-12           | 1.0 UJ            |
| WP1-13           | 1.0 U             |

### PLANT - 4

| SAMPLE<br>NUMBER | AROCHLOR<br>-1248 |
|------------------|-------------------|
| WP4-1            | 1.0 U             |
| WP4-2            | 1.0 R             |
| WP4-3            | 6.2 L             |
| WP4-4            | 1.0 R             |
| WP4-5            | 1.0 UJ            |
| WP4-6            | 1.0 UL            |
| WP4-7            | 1.9 L             |
| WP4-8            | 2.3 J             |
| WP4-9            | 10 J              |
| WP4-10           | 2.1 J             |
| WP4-11           | 6.4 J             |
| WP4-12           | 28                |
| WP4-13           | 5.4               |
| WP4-14           | 9.2 L             |
| WP4-15           | 8.5 J             |
| WP4-16           | 14 J              |
| WP4-17           | 2.4 J             |
| WP4-18           | 1.0 UJ            |
| QC(BLANK)        | 1.0 UL            |

### Qualifiers

J - Analyte present. Reported value may not be accurate or precise.

L - Analyte present. Reported value may be biased low. Actual value expected to be higher.

R - Unreliable result. Analyte may or may not be present in the sample.

Supporting data necessary to confirm result.

UJ - Not detected, quantitation limit may be inaccurate or imprecise.

UL - Not detected, quantitation limit is probably higher.

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

## FEBRUARY 1993 SAMPLING RESULTS

Results reported in ug/L (ppb)

| SAMPLE LOCATION   | AROCHLOR 1248 |
|-------------------|---------------|
| OIL SEPARATOR     | 500 U         |
| STORM WATER DRAIN | 200U          |

### Qualifiers

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

AR100240

# CERRO METALS PRODUCTS SITE

## APRIL 1993 WATER AND OIL SAMPLING VOLATILE ORGANIC RESULTS

Results Reported in ug/L (ppb)

| PARAMETER                 | PP-1 | PP-2 | PP-3 | PP-4 | OS-2* |
|---------------------------|------|------|------|------|-------|
| CHLOROMETHANE             | 10U  | 10U  | 10U  | 10U  | 330U  |
| BROMOMETHANE              | 10U  | 10U  | 10U  | 10U  | 330U  |
| VINYL CHLORIDE            | 10U  | 10U  | 10U  | 10U  | 330U  |
| CHLOROETHANE              | 10U  | 10U  | 10U  | 10U  | 330U  |
| METHYLENE CHLORIDE        | 5U   | 3.9B | 4.3B | 6.1B | 140B  |
| 1,1-DICHLOROETHENE        | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,1-DICHLOROETHANE        | 5U   | 5U   | 5U   | 5U   | 330U  |
| TRANS-1,2-DICHLOROETHENE  | 5U   | 5U   | 5U   | 5U   | 330U  |
| CHLOROFORM                | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,2-DICHLOROETHANE        | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,1,1-TRICHLOROETHANE     | 5U   | 5U   | 5U   | 5U   | 330U  |
| CARBON TETRACHLORIDE      | 5U   | 5U   | 5U   | 5U   | 330U  |
| BROMODICHLOROMETHANE      | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,2-DICHLOROPROPANE       | 5U   | 5U   | 5U   | 5U   | 330U  |
| TRANS-1,3-DICHLOROPROPENE | 5U   | 5U   | 5U   | 5U   | 330U  |
| TRICHLOROETHENE           | 5U   | 5U   | 5U   | 5U   | 330U  |
| DIBROMOCHLOROMETHANE      | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,1,2-TRICHLOROETHANE     | 5U   | 5U   | 5U   | 5U   | 330U  |
| BENZENE                   | 5U   | 5U   | 5U   | 5U   | 330U  |
| CIS-1,3-DICHLOROPROPENE   | 5U   | 5U   | 5U   | 5U   | 330U  |
| 2-CHLOROETHYL VINYL ETHER | 10U  | 10U  | 10U  | 10U  | 330U  |
| BROMOFORM                 | 5U   | 5U   | 5U   | 5U   | 330U  |
| TETRACHLOROETHANE         | 5U   | 5U   | 5U   | 5U   | 330U  |
| 1,1,2,2-TETRACHLOROETHANE | 5U   | 5U   | 5U   | 5U   | 330U  |
| TOLUENE                   | 5U   | 5U   | 5U   | 5U   | 330U  |
| CHLOROBENZENE             | 5U   | 5U   | 5U   | 5U   | 330U  |
| ETHYLBENZENE              | 5U   | 5U   | 5U   | 5U   | 330U  |
| STYRENE                   | 5U   | 5U   | 5U   | 5U   | 330U  |
| TOTAL XYLENES             | 5U   | 5U   | 5U   | 5U   | 330U  |

\* Results reported in ug/Kg for oil sample.

PP-1 WASTEWATER INFLUENT

PP-2 SANITARY WATER DISCHARGE

PP-3 WASTE PLANT DISCHARGE ONE

PP-4 SOUTH LOT SKIMMER DISCHARGE

OS-2 PLANT 1 NORTH STORM DRAIN OIL LAYER

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

B - Not detected substantially above the level reported in laboratory or field blanks.

AR100241

# CERRO METALS PRODUCTS SITE

PAGE 1 of 2

## APRIL 1993 WATER AND OIL SAMPLING SEMIVOLATILE ORGANIC RESULTS

Results Reported in ug/L (ppb)

| PARAMETER                   | PP-1 | PP-2 | PP-3 | PP-4 | OS-2* |
|-----------------------------|------|------|------|------|-------|
| N-NITROSODIMETHYLAMINE      | 10U  | 10U  | 10U  | 10U  | 33U   |
| PHENOL                      | 10U  | 10U  | 10U  | 10U  | 33U   |
| BIS(2-CHLOROETHYL)ETHER     | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2-CHLOROPHENOL              | 10U  | 10U  | 10U  | 10U  | 33U   |
| 1,3-DICHLOROBENZENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| 1,4-DICHLOROBENZENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| 1,2-DICHLOROBENZENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2-METHYLPHENOL              | 10U  | 10U  | 10U  | 10U  | 33U   |
| BIS(2-CHLOROISOPROPYL)ETHER | 10U  | 10U  | 10U  | 10U  | 33U   |
| 4-METHYLPHENOL              | 10U  | 10U  | 10U  | 10U  | 33U   |
| N-NITROSO-DI-N-PROPYLAMINE  | 10U  | 10U  | 10U  | 10U  | 33U   |
| HEXACHLOROETHANE            | 10U  | 10U  | 10U  | 10U  | 33U   |
| NITROBENZENE                | 10U  | 10U  | 10U  | 10U  | 33U   |
| ISOPHORONE                  | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2-NITROPHENOL               | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2,4-DIMETHYLPHENOL          | 10U  | 10U  | 10U  | 10U  | 33U   |
| BIS(2-CHLOROETHOXY)METHANE  | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2,4-DICHLOROPHENOL          | 10U  | 10U  | 10U  | 10U  | 33U   |
| 1,2,4-TRICHLOROBENZENE      | 10U  | 10U  | 10U  | 10U  | 33U   |
| NAPHTHALENE                 | 10U  | 10U  | 10U  | 10U  | 33U   |
| HEXACHLOROBUTADIENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| 4-CHLORO-3-METHYLPHENOL     | 10U  | 10U  | 10U  | 10U  | 33U   |
| HEXACHLOROCYCLOPENTADIENE   | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2,4,6-TRICHLOROPHENOL       | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2-CHLORONAPHTHALENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| DIMETHYL PHTHALATE          | 10U  | 10U  | 10U  | 10U  | 33U   |
| ACENAPHTHYLENE              | 10U  | 10U  | 10U  | 10U  | 33U   |
| ACENAPHTHENE                | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2,4-DINITROPHENOL           | 50U  | 50U  | 50U  | 50U  | 170U  |
| 4-NITROPHENOL               | 50U  | 50U  | 50U  | 50U  | 170U  |

\* Results reported in ug/Kg for oil sample.

PP-1 WASTEWATER INFLUENT

PP-2 SANITARY WATER DISCHARGE

PP-3 WASTE PLANT DISCHARGE ONE

PP-4 SOUTH LOT SKIMMER DISCHARGE

OS-2 PLANT 1 NORTH STORM DRAIN OIL LAYER

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

AR100242

# CERRO METALS PRODUCTS SITE

PAGE 2 of 2

## APRIL 1993 WATER AND OIL SAMPLING SEMIVOLATILE ORGANIC RESULTS

Results Reported in ug/L (ppb)

| PARAMETER                  | PP-1 | PP-2 | PP-3 | PP-4 | OS-2* |
|----------------------------|------|------|------|------|-------|
| 2,4-DINITROTOLUENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| 2,6-DINITROTOLUENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| DIETHYLPHTHALATE           | 10U  | 10U  | 10U  | 10U  | 33U   |
| 4-CHLOROPHENYL-PHENYLETHER | 10U  | 10U  | 10U  | 10U  | 33U   |
| FLUORENE                   | 10U  | 10U  | 10U  | 10U  | 33U   |
| 4,6-DINITRO-2-METHYLPHENOL | 50U  | 50U  | 50U  | 50U  | 170U  |
| N-NITROSODIPHENYLAMINE     | 10U  | 10U  | 10U  | 10U  | 33U   |
| 4-BROMOPHENYL-PHENYLETHER  | 10U  | 10U  | 10U  | 10U  | 33U   |
| HEXACHLOROBENZENE          | 10U  | 10U  | 10U  | 10U  | 33U   |
| PENTACHLOROPHENOL          | 50U  | 50U  | 50U  | 50U  | 170U  |
| PHENANTHRENE               | 10U  | 10U  | 10U  | 10U  | 33U   |
| ANTHRACENE                 | 10U  | 10U  | 10U  | 10U  | 33U   |
| DI-N-BUTYLPHTHALATE        | 10U  | 10U  | 10U  | 14J  | 21J   |
| FLUORANTHENE               | 10U  | 10U  | 10U  | 10U  | 33U   |
| BENZIDINE                  | 100U | 100U | 100U | 100U | 330U  |
| PYRENE                     | 10U  | 10U  | 10U  | 10U  | 33U   |
| BUTYLBENZYLPHTHALATE       | 10U  | 10U  | 10U  | 10U  | 33U   |
| 3,3'-DICHOROBENZIDINE      | 20U  | 20U  | 20U  | 20U  | 67U   |
| BENZO(A)ANTHRACENE         | 10U  | 10U  | 10U  | 10U  | 33U   |
| BIS(2-ETHYLHEXYL)PHTHALATE | 10U  | 10U  | 10U  | 22J  | 66J   |
| CHRYSENE                   | 10U  | 10U  | 10U  | 10U  | 33U   |
| DI-N-OCTYLPHTHALATE        | 10U  | 10U  | 10U  | 10U  | 33U   |
| BENZO(B)FLUORANTHENE       | 10U  | 10U  | 10U  | 10U  | 33U   |
| BENZO(K)FLUORANTHENE       | 10U  | 10U  | 10U  | 10U  | 33U   |
| BENZO(A)PYRENE             | 10U  | 10U  | 10U  | 10U  | 33U   |
| INDENO(1,2,3-CD)PYRENE     | 10U  | 10U  | 10U  | 10U  | 33U   |
| DIBENZ(A,H)ANTHRACENE      | 10U  | 10U  | 10U  | 10U  | 33U   |
| BENZO(G,H,I)PERYLENE       | 10U  | 10U  | 10U  | 10U  | 33U   |

\* Results reported in ug/Kg for oil sample.

PP-1 WASTEWATER INFLUENT

PP-2 SANITARY WATER DISCHARGE

PP-3 WASTE PLANT DISCHARGE ONE

PP-4 SOUTH LOT SKIMMER DISCHARGE

OS-2 PLANT 1 NORTH STORM DRAIN OIL LAYER

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

J - Analyte present. Reported value may not be accurate or precise.

AR100243

# CERRO METALS PRODUCTS SITE

## APRIL 1993 WATER AND OIL SAMPLING PESTICIDE/PCB RESULTS

Results Reported in ug/L (ppb)

| PARAMETER           | PP-1   | PP-2   | PP-3   | PP-4   | OS-2*  |
|---------------------|--------|--------|--------|--------|--------|
| ALPHA-BHC           | 0.060U | 0.060U | 0.060U | 0.060U | 0.10U  |
| BETA-BHC            | 0.12U  | 0.12U  | 0.12U  | 0.12U  | 0.20U  |
| DELTA-BHC           | 0.18U  | 0.18U  | 0.18U  | 0.18U  | 0.30U  |
| GAMMA-BHC (LINDANE) | 0.080U | 0.080U | 0.080U | 0.080U | 0.13U  |
| HEPTACHLOR          | 0.060U | 0.060U | 0.060U | 0.060U | 0.10U  |
| ALDRIN              | 0.080U | 0.080U | 0.080U | 0.080U | 0.13U  |
| HEPTACHLOR EPOXIDE  | 1.7U   | 1.7U   | 1.7U   | 1.7U   | 2.8U   |
| ENDOSLUFAN I        | 0.28U  | 0.28U  | 0.28U  | 0.28U  | 0.47U  |
| DIELDRIN            | 0.040U | 0.040U | 0.040U | 0.040U | 0.067U |
| 4,4'-DDE            | 0.080U | 0.080U | 0.080U | 0.080U | 0.13U  |
| ENDRIN              | 0.12U  | 0.12U  | 0.12U  | 0.12U  | 0.20U  |
| ENDOSULFAN II       | 0.080U | 0.080U | 0.080U | 0.080U | 0.13U  |
| 4,4'-DDD            | 0.22U  | 0.22U  | 0.22U  | 0.22U  | 0.37U  |
| ENDOSULFAN SULFATE  | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| 4,4'-DDT            | 0.24U  | 0.24U  | 0.24U  | 0.24U  | 0.40U  |
| ENDRIN ALDEHYDE     | 0.46U  | 0.46U  | 0.46U  | 0.46U  | 0.77U  |
| ENDRIN KEYTONE      | 0.46U  | 0.46U  | 0.46U  | 0.46U  | 0.77U  |
| METHOXYCHLOR        | 3.6U   | 3.6U   | 3.6U   | 3.6U   | 6.0U   |
| CHLORDANE           | 0.28U  | 0.28U  | 0.28U  | 0.28U  | 0.47U  |
| ALPHA-CHLORDANE     | 0.28U  | 0.28U  | 0.28U  | 0.28U  | 0.47U  |
| GAMMA-CHLORDANE     | 0.28U  | 0.28U  | 0.28U  | 0.28U  | 0.47U  |
| TOXAPHENE           | 4.8U   | 4.8U   | 4.8U   | 4.8U   | 8.0U   |
| AROCLOR 1016        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| AROCLOR 1221        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| AROCLOR 1232        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| AROCLOR 1242        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| AROCLOR 1248        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 87     |
| AROCLOR 1252        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |
| AROCLOR 1260        | 1.3U   | 1.3U   | 1.3U   | 1.3U   | 2.2U   |

\* Results reported in ug/Kg for oil sample.

PP-1 WASTEWATER INFLUENT

PP-2 SANITARY WATER DISCHARGE

PP-3 WASTE PLANT DISCHARGE ONE

PP-4 SOUTH LOT SKIMMER DISCHARGE

OS-2 PLANT 1 NORTH STORM DRAIN OIL LAYER

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

AR100244

# CERRO METAL PRODUCTS SITE METALS RESULTS FOR JULY 1993 SEDIMENT SAMPLING

All results reported in mg/Kg (ppm) on a dry weight basis

| SAMPLE<br>NUMBER | Al    | As    | Ca     | Cr     | Cu       | Fe      | Pb     | Mg    | Mn     | Zn     |
|------------------|-------|-------|--------|--------|----------|---------|--------|-------|--------|--------|
| SED-01           | 10500 | 7.9   | 59400  | 24.0   | 201      | 15400   | 155    | 9890  | 302 L  | 320 L  |
| SED-02           | 6740  | 7.3   | 60300  | 22.6   | 468      | 25900   | 92.6   | 5280  | 431 L  | 615 L  |
| SED-03           | 5650  | 8.0   | 73200  | 24.7   | 406      | 35400   | 90.1   | 9480  | 380 L  | 557 L  |
| SED-04           | 4440  | 8.1   | 75800  | 27.6   | 1430     | 51200   | 114    | 5660  | 378 L  | 788 L  |
| SED-05           | 10500 | 7.1   | 36500  | 25.2   | 1480     | 20800   | 259    | 10200 | 494 L  | 1870 L |
| SED-06           | 9670  | 8.6   | 38800  | 26.0   | 606      | 21600   | 185    | 7150  | 824 L  | 791 L  |
| SED-07           | 5790  | 3.7K  | 30100  | 17.3   | 534      | 15000   | 130    | 7860  | 281    | 554 L  |
| SED-08           | 6880  | 5.3   | 27800  | 15.6   | 572      | 16500   | 226    | 5510  | 307 L  | 440 L  |
| SED-09           | 5660  | 3.3K  | 22200  | 14.1   | 426      | 13100   | 102    | 6980  | 191 L  | 358 L  |
| SED-10           | 7860  | 6.1   | 46300  | 18.9   | 1410     | 21400   | 126    | 6010  | 470 L  | 860 L  |
| SED-11           | 4420  | 6.6   | 44900  | 18.4   | 1260     | 24700   | 121    | 5370  | 325 L  | 811 L  |
| SED-12           | 5170  | 4.7   | 72500  | 17.5   | 493      | 19900   | 121    | 10100 | 301 L  | 555 L  |
| SED-13           | 8010  | 5.2   | 26900  | 23.9   | 891      | 18400   | 154    | 7520  | 282 L  | 831 L  |
| SED-14           | 6380  | 4.4   | 28000  | 21.8   | 720      | 13900   | 159    | 7980  | 174 L  | 813 L  |
| SED-15           | 9420  | 7.0   | 37000  | 29.2   | 781      | 19400   | 241    | 8910  | 420 L  | 704 L  |
| SED-16           | 5230  | 4.0   | 53500  | 13.9   | 719      | 14800   | 132    | 9270  | 313 L  | 438 L  |
| SED-17           | 3720  | 4.4   | 28100  | 36.7   | 654      | 12400   | 108    | 5520  | 182 L  | 597 L  |
| SED-18           | 7960  | 6.5   | 32500  | 52.4   | 932      | 20200   | 367    | 8710  | 431 L  | 924 L  |
| SED-19           | 5720  | 5.6   | 32500  | 39.6   | 921      | 17200   | 277    | 7020  | 415 L  | 901 L  |
| SED-20           | 8490  | 6.3   | 27200  | 20.2   | 890      | 21400   | 143    | 5020  | 372 L  | 685 L  |
| SED-21           | 6410  | 7.4   | 30800  | 14.6 J | 928 J    | 19900 J | 150 J  | 4930  | 533 L  | 760    |
| SED-22           | 6570  | 6.5   | 37200  | 18.7 J | 1640 J   | 26100 J | 200 J  | 8830  | 344 L  | 1270   |
| SED-23           | 6810  | 5.1   | 30400  | 17.2 J | 519 J    | 14000 J | 203 J  | 6020  | 397 L  | 446    |
| SED-24           | 6130  | 3.7   | 20400  | 10.9 J | 307 J    | 13200 J | 113 J  | 6640  | 273 L  | 311    |
| SED-25           | 5490  | 3.6   | 69800  | 11.1 J | 615 J    | 12400 J | 83.7 J | 5160  | 246 L  | 251    |
| SED-26           | 6670  | 7.4   | 27800  | 14.9 J | 362 J    | 17600 J | 116 J  | 10100 | 341 L  | 469    |
| SED-27           | 5790  | 3.5   | 25900  | 9.3 J  | 658 J    | 12700 J | 89.8 J | 7800  | 287 L  | 448    |
| SED-28           | 9900  | 6.4   | 24100  | 16.3 J | 401 J    | 17000 J | 153 J  | 8760  | 367 L  | 379    |
| SED-29           | 8710  | 4.3   | 22300  | 14.4 J | 1270 J   | 15200 J | 194 J  | 7540  | 274 L  | 819    |
| SED-30           | 12500 | 5.6   | 28700  | 18.4 J | 368 J    | 18600 J | 262 J  | 8280  | 562 L  | 341    |
| SED-31           | 6500  | 4.2   | 18500  | 10.6 J | 182 J    | 11400 J | 157 J  | 5100  | 355 L  | 202    |
| SED-32           | 6870  | 4.4   | 24100  | 12.7 J | 1340 J   | 15400 J | 162 J  | 6240  | 276 L  | 774    |
| SED-33           | 5120  | 5.4   | 121000 | 14.1 J | 12100 J  | 13300 J | 676 J  | 13100 | 324 L  | 6520   |
| SED-34           | 11300 | 10.0  | 15900  | 11.7 J | 408 J    | 45500 J | 127 J  | 3060  | 442 L  | 240    |
| SED-35           | 6180  | 4.7   | 18700  | 12.1 J | 63.9 J   | 12900 J | 129 J  | 5250  | 430 L  | 129    |
| SED-36           | 4340  | 3.5   | 14700  | 10.0 J | 201 J    | 11500 J | 90.4 J | 3890  | 247 L  | 105    |
| SED-37           | 4790  | 4.3   | 18300  | 13.0 J | 33.6 J   | 13600 J | 114 J  | 5070  | 364 L  | 90.6   |
| SED-39           | 6600  | 7.2   | 22800  | 89.9 J | 3630 J   | 28000 J | 5490 J | 6460  | 348 L  | 4340   |
| SED-40           | 3760  | 5.8   | 5200   | 55.0 J | 124000 J | 9190 J  | 9560 J | 7250  | 1190 L | 278000 |
| SED-42           | 4780  | 4.8   | 23100  | 13.8 J | 3830 J   | 12700 J | 294 J  | 5340  | 281 L  | 2610   |
| SED-46           | 8430  | 8.0   | 35400  | 16.5   | 3680     | 16200   | 366    | 7340  | 371 K  | 2760   |
| SED-47           | 2060  | [2.9] | 73800  | 6.9    | 22.9     | 5810    | 23.0   | 6100  | 159 K  | 47.5   |
| SED-48           | 2650  | 4.7   | 115000 | 10.7   | 18.7     | 12400   | 15.1   | 6510  | 205 K  | 47.9   |
| SED-49           | 4230  | 4.6   | 35500  | 11.2   | 304      | 15100   | 84.6   | 6540  | 205 K  | 341    |
| SED-50           | 4590  | 4.9   | 87400  | 12.7   | 206      | 13000   | 65.7   | 6730  | 455 K  | 421    |

## Qualifiers

[ ] - Analyte present. As values approach the IDL the quantitation may not be accurate.

J - Analyte present. Reported value may not be accurate or precise.

K - Analyte present. Reported value may be biased high. Actual value is expected to be lower.

L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.

AR100245

# CERRO METAL PRODUCTS SITE

## PCB RESULTS FOR APRIL 1993 SOIL AND SEDIMENT SAMPLING

Concentrations Reported in ug/Kg (ppb) on a dry weight basis.

| SAMPLE NUMBER | AROCHLOR -1248 |
|---------------|----------------|
| TS-1          | 250            |
| TS-2          | 200 J          |
| TS-3          | 12 J           |
| TS-4          | 20 J           |
| TS-5          | 100 J          |
| TS-6          | 440 J          |
| TS-7          | 130 J          |
| TS-8          | 120 J          |
| TSB-1         | 26 J           |
| TSB-2         | 16 J           |
| TSB-3         | 36 J           |
| TSB-4         | 190            |
| TSB-5         | 660 J          |
| TSB-6         | 2200 J **      |

| SAMPLE NUMBER | AROCHLOR -1248 |
|---------------|----------------|
| SS-1          | 4800           |
| SS-2          | 24000          |
| SS-3          | *              |
| SS-4          | 620 J          |
| SS-5          | 4100           |
| SS-6          | 45000          |
| SS-7          | 64000          |
| SS-8          | 12000          |
| SS-9          | 790 L          |
| SS-10         | 530 J          |
| SS-11         | 73 J           |
| SS-12         | 60 J           |
| SS-13         | 680 J          |
| SS-14         | 930 J          |
| SS-15         | 520 L          |
| SS-16         | 110 L          |
| SS-17         | 1000           |
| SS-18         | 650U           |

## PCB RESULTS FOR JULY 1993 SEDIMENT SAMPLING

Concentrations Reported in ug/Kg (ppb) on a dry weight basis.

| SAMPLE NUMBER | AROCHLOR -1248 |
|---------------|----------------|
| SED-01        | 290 J          |
| SED-02        | 170 J          |
| SED-03        | 130 J          |
| SED-04        | 99 J           |
| SED-05        | 450 J          |
| SED-06        | 360 J          |
| SED-07        | 410 J          |
| SED-08        | 250 J          |
| SED-09        | 280 J          |
| SED-10        | 150 J          |
| SED-11        | 210 J          |
| SED-12        | 190 J          |
| SED-13        | 2700           |
| SED-14        | 1100           |
| SED-15        | 500 J          |
| SED-16        | 200 J          |
| SED-17        | 580 J          |
| SED-18        | 290 J          |
| SED-19        | 280 J          |
| SED-20        | 270 J          |
| SED-21        | 340 J          |
| SED-22        | 840            |
| SED-23        | 700 J          |
| SED-24        | 290 J          |
| SED-25        | 130 J          |
| SED-26        | 240 J          |
| SED-27        | 620 J          |

| SAMPLE NUMBER | AROCHLOR -1248 |
|---------------|----------------|
| SED-28        | 930 J          |
| SED-29        | 810 J          |
| SED-30        | 6300           |
| SED-31        | 980 J          |
| SED-32        | 390 J          |
| SED-33        | 96 J           |
| SED-34        | 44 U           |
| SED-35        | 51 U           |
| SED-36        | 160 J          |
| SED-37        | 49 U           |
| SED-38        | 920 J          |
| SED-39        | 1500 J         |
| SED-40        | 380000 J       |
| SED-41        | 410 J          |
| SED-42        | 1100 J         |
| SED-43        | 4000 J         |
| SED-44        | 14000 J        |
| SED-44#       | 15000 J        |
| SED-45        | 59 U           |
| SED-46        | 930            |
| SED-47        | 46 U           |
| SED-48        | 42 U           |
| SED-49        | 150 J          |
| SED-50        | 130 J          |
| SED-51        | 490            |
| SED-52        | 1200           |
| SED-52B#      | 120U           |

### Qualifiers

U - Not detected. The associated number indicates the approximate sample concentration necessary to be detected.

L - Analyte present. Reported value may be biased low. Actual value is expected to be higher.

J - Analyte present. Reported value may not be accurate or precise.

\*\* - Reported result for Arochlor-1254

\* Not tested for PCBs.

# Result from samples sent for priority pollutant analyses. The samples were collected from the same location as the samples without the B suffix.

AR100246

# CERRO METALS PRODUCTS SITE

## JULY 1993 SEDIMENT SAMPLING VOLATILE ORGANIC RESULTS

Results Reported in ug/Kg (ppb)

| PARAMETER                 | SED52B | SED44B |
|---------------------------|--------|--------|
| CHLOROMETHANE             | 6.5U   | 8.5U   |
| BROMOMETHANE              | 11U    | 14U    |
| VINYL CHLORIDE            | 9.7U   | 13U    |
| CHLOROETHANE              | 5.6U   | 7.3U   |
| METHYLENE CHLORIDE        | 9.4J   | 53J    |
| ACROLEIN                  | 35U    | 46U    |
| ACRYLONITRILE             | 17U    | 22U    |
| TRICHLOROFLUOROMETHANE    | 3.7U   | 4.8U   |
| 1,1-DICHLOROETHENE        | 4.4U   | 5.7U   |
| 1,1-DICHLOROETHANE        | 3.9U   | 5.0U   |
| TRANS-1,2-DICHLOROETHENE  | 4.9U   | 6.4U   |
| CHLOROFORM                | 4.6U   | 6.0U   |
| 1,2-DICHLOROETHANE        | 3.3U   | 4.4U   |
| 1,1,1-TRICHLOROETHANE     | 6.7U   | 8.7U   |
| CARBON TETRACHLORIDE      | 4.7U   | 6.2U   |
| BROMODICHLOROMETHANE      | 6.0U   | 7.8U   |
| 1,2-DICHLOROPROPANE       | 7.7U   | 10U    |
| CIS-1,3-DICHLOROPROPENE   | 7.4U   | 9.6U   |
| TRICHLOROETHENE           | 14U    | 19U    |
| DIBROMOCHLOROMETHANE      | 5.1U   | 6.7U   |
| 1,1,2-TRICHLOROETHANE     | 6.2U   | 8.0U   |
| BENZENE                   | 7.4U   | 9.6U   |
| TRANS-1,3-DICHLOROPROPENE | 4.9U   | 6.4U   |
| 2-CHLOROETHYL VINYL ETHER | 6.5U   | 8.5U   |
| BROMOFORM                 | 4.6U   | 6.0U   |
| TETRACHLOROETHANE         | 3.7U   | 4.8U   |
| 1,1,2,2-TETRACHLOROETHANE | 6.5U   | 8.5U   |
| TOLUENE                   | 14J    | 27J    |
| CHLOROBENZENE             | 4.0U   | 5.3U   |
| ETHYLBENZENE              | 4.9U   | 6.4U   |

### QUALIFIERS:

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

J - Analyte present. Reported value may not be accurate or precise.

AR100247

# CERRO METALS PRODUCTS SITE

Page 1 of 2

## JULY 1993 SEDIMENT SAMPLING SEMIVOLATILE ORGANIC RESULTS

Results Reported in ug/Kg (ppb)

| PARAMETER                   | SED52B | SED44B |
|-----------------------------|--------|--------|
| N-NITROSODIMETHYLAMINE      | 15000U | 35000U |
| PHENOL                      | 4600U  | 11000U |
| BIS(2-CHLOROETHYL)ETHER     | 4300U  | 9800U  |
| 2-CHLOROPHENOL              | 4300U  | 9800U  |
| 1,3-DICHLOROBENZENE         | 4000U  | 9100U  |
| 1,4-DICHLOROBENZENE         | 4100U  | 9500U  |
| 1,2-DICHLOROBENZENE         | 4000U  | 9100U  |
| BIS(2-CHLOROISOPROPYL)ETHER | 4400U  | 10000U |
| N-NITROSO-DI-N-PROPYLAMINE  | 3600U  | 8800U  |
| HEXACHLOROETHANE            | 3500U  | 8100U  |
| NITROBENZENE                | 3500U  | 8100U  |
| ISOPHORONE                  | 4000U  | 9100U  |
| 2-NITROPHENOL               | 3400U  | 7700U  |
| 2,4-DIMETHYLPHENOL          | 3400U  | 7700U  |
| BIS(2-CHLOROETHOXY)METHANE  | 4000U  | 9100U  |
| 2,4-DICHLOROPHENOL          | 3500U  | 8100U  |
| 1,2,4-TRICHLOROBENZENE      | 3800U  | 8800U  |
| NAPHTHALENE                 | 4400U  | 10000U |
| HEXACHLOROBUTADIENE         | 4000U  | 9100U  |
| 4-CHLORO-3-METHYLPHENOL     | 4100U  | 9500U  |
| HEXACHLOROCYCLOPENTADIENE   | 15000U | 35000U |
| 2,4,6-TRICHLOROPHENOL       | 4400U  | 10000U |
| 2-CHLORONAPHTHALENE         | 4600U  | 11000U |
| DIMETHYL PHTHALATE          | 3300   | 7000U  |
| ACENAPHTHYLENE              | 3700U  | 8400U  |
| ACENAPHTHENE                | 4100U  | 9500U  |
| 2,4-DINITROPHENOL           | 2100U  | 4900U  |
| 4-NITROPHENOL               | 9800U  | 22000U |

### QUALIFIERS:

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

AR100248

# CERRO METALS PRODUCTS SITE

PAGE 2 of 2

## JULY 1993 SEDIMENT SAMPLING SEMIVOLATILE ORGANIC RESULTS

Results Reported in ug/Kg (ppb)

| PARAMETER                  | PP-1   | PP-2   |
|----------------------------|--------|--------|
| 2,4-DINITROTOLUENE         | 4700U  | 11000U |
| 2,6-DINITROTOLUENE         | 4300U  | 9800U  |
| DIETHYLPHTHALATE           | 2000U  | 4600U  |
| 4-CHLOROPHENYL-PHENYLETHER | 3800U  | 8800U  |
| FLUORENE                   | 4000U  | 9100U  |
| 4,6-DINITRO-2-METHYLPHENOL | 4900U  | 11000U |
| N-NITROSODIPHENYLAMINE     | 4000U  | 9100U  |
| 1,2-DIPHENYLHYDRAZINE      | 4900U  | 11000U |
| 4-BROMOPHENYL-PHENYLETHER  | 4600U  | 11000U |
| HEXACHLOROBENZENE          | 4700U  | 11000U |
| PENTACHLOROPHENOL          | 6000U  | 14000U |
| PHENANTHRENE               | 3200U  | 7400U  |
| ANTHRACENE                 | 2900U  | 6700U  |
| DI-N-BUTYLPHTHALATE        | 3100U  | 7000U  |
| FLUORANTHENE               | 4000U  | 9100U  |
| BENZIDINE                  | 15000U | 35000U |
| PYRENE                     | 9000U  | 21000U |
| BUTYLBENZYLPHTHALATE       | 5400U  | 12000U |
| 3,3'-DICHLOROBENZIDINE     | 6100U  | 14000U |
| BENZO(A)ANTHRACENE         | 4600U  | 11000U |
| BIS(2-ETHYLHEXYL)PHTHALATE | 5200U  | 5200   |
| CHRYSENE                   | 4400U  | 10000U |
| DI-N-OCTYLPHTHALATE        | 5800U  | 13000U |
| BENZO(B)FLUORANTHENE       | 4400U  | 10000U |
| BENZO(K)FLUORANTHENE       | 4000U  | 9100U  |
| BENZO(A)PYRENE             | 3800U  | 8800U  |
| INDENO(1,2,3-CD)PYRENE     | 5700U  | 13000U |
| DIBENZ(A,H)ANTHRACENE      | 4300U  | 9800U  |
| BENZO(G,H,I)PERYLENE       | 3800U  | 8800U  |

### QUALIFIERS:

U - Not detected. The associated number indicates approximate sample concentration necessary to be detected.

AR100249

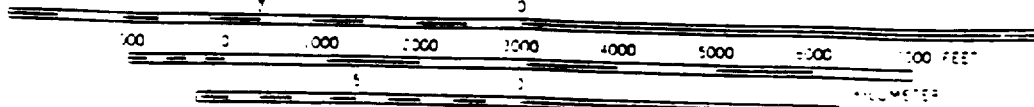
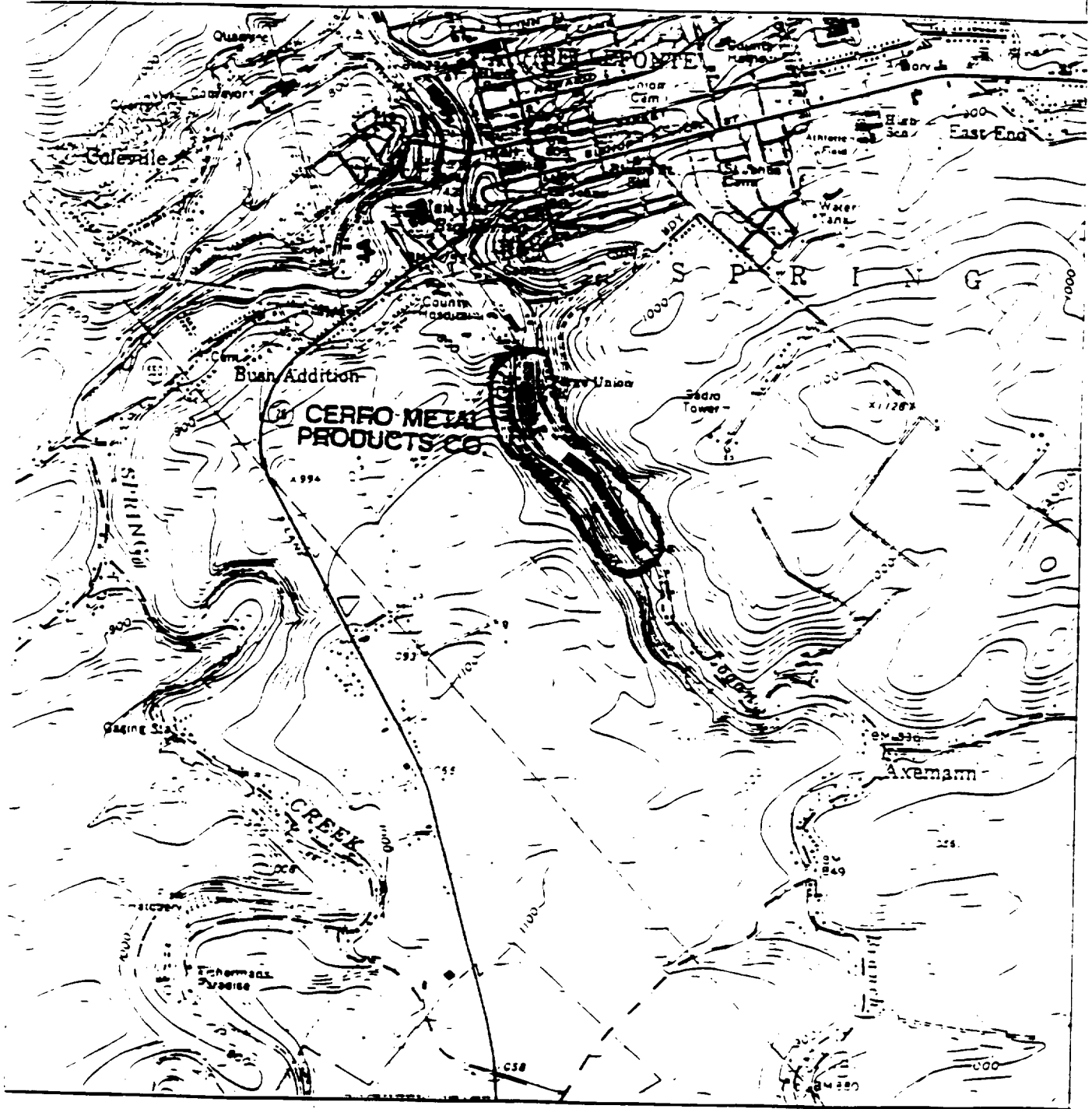
# SITE LOCATION MAP



# WESTON

MAJOR  
PROGRAMS  
DIVISION

TCC Number **9302-06**  
PCS Number **4333**



CONTOUR INTERVAL 20 FEET  
DATUM IS MEAN SEA LEVEL

**CERRO METAL PRODUCTS**  
**ROUTE 144 SOUTH**  
**BELLEFONTE, CENTRE COUNTY, PA**

**BELLEFONTE, PA.**

140525-W7745-75

1962

PHOTO REVISÉ 1971

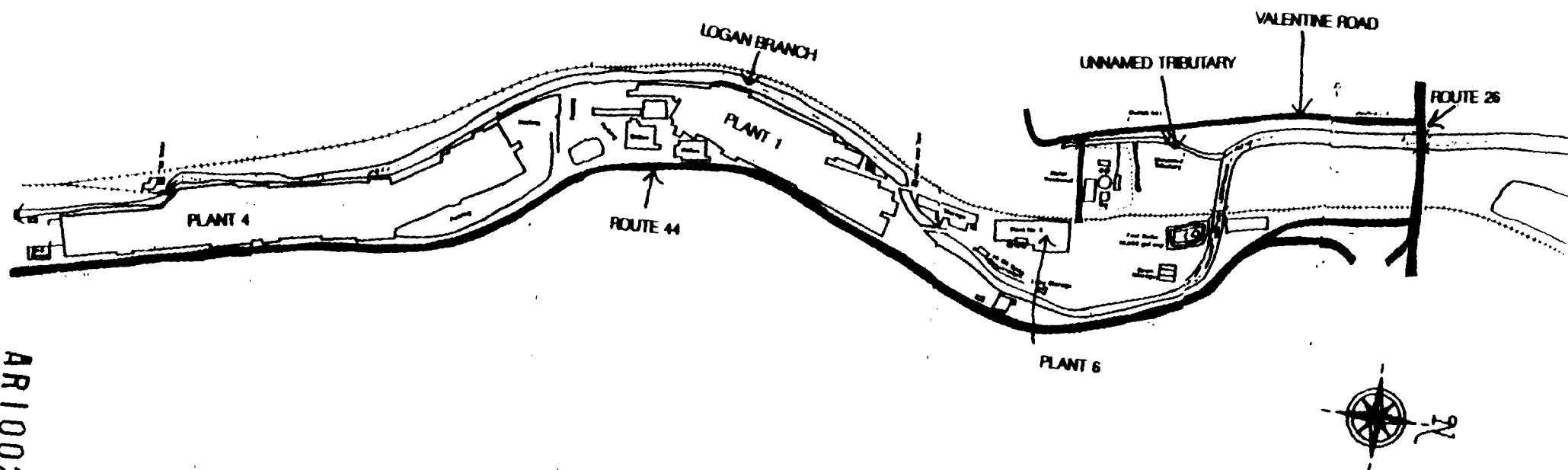
AMS 5465 IV NE-SERIES V831

TM GRID AND 1971 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

**AR100250**

# CERRO METAL PRODUCTS

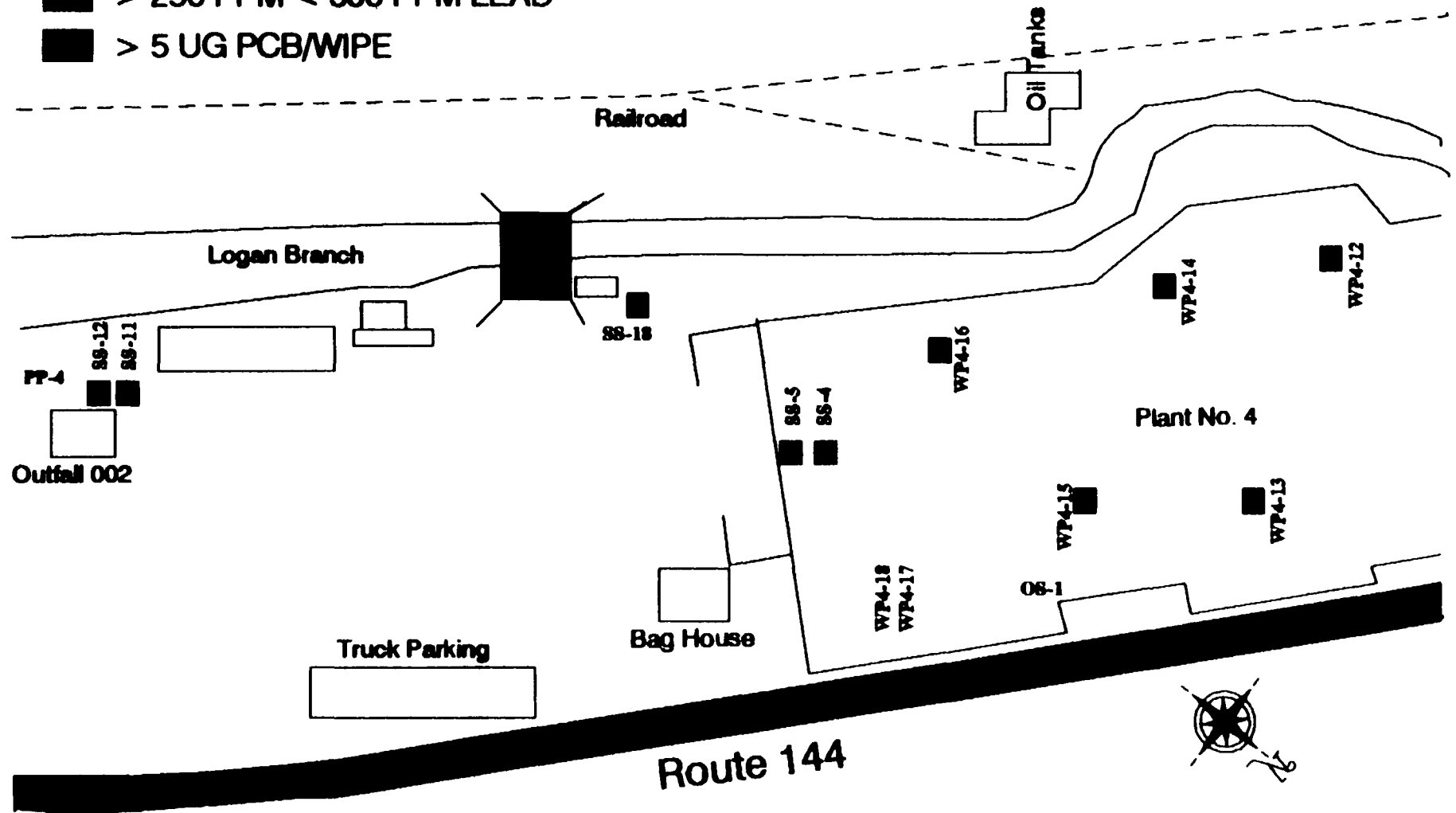
## SITE OVERVIEW



AR100251

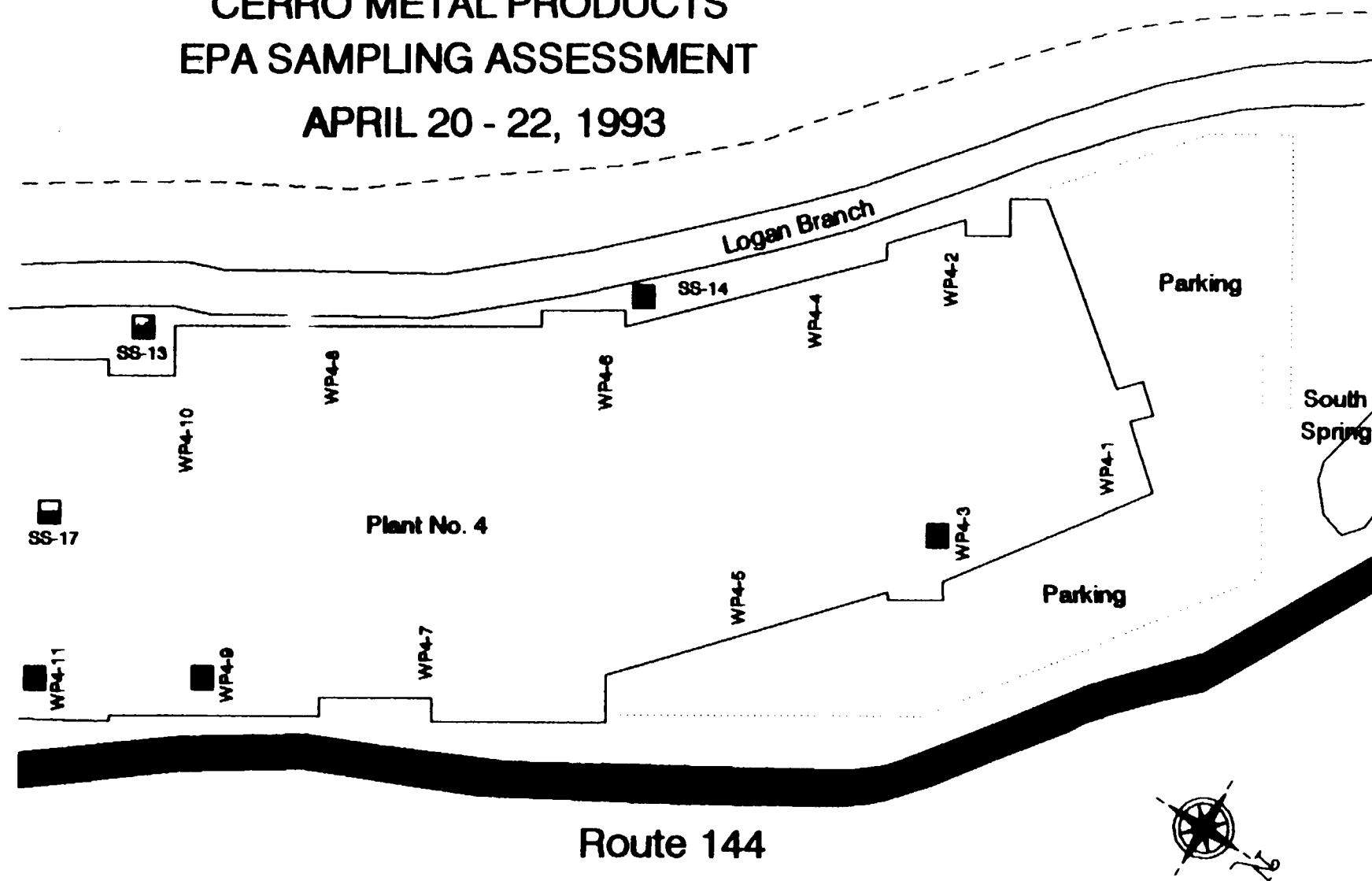
- > 1 PPM PCBs
- > 500 PPB < 1 PPM PCBs
- > 500 PPM LEAD
- > 250 PPM < 500 PPM LEAD
- > 5 UG PCB/WIPE

# CERRO METAL PRODUCTS EPA SAMPLING ASSESSMENT APRIL 20-22, 1993

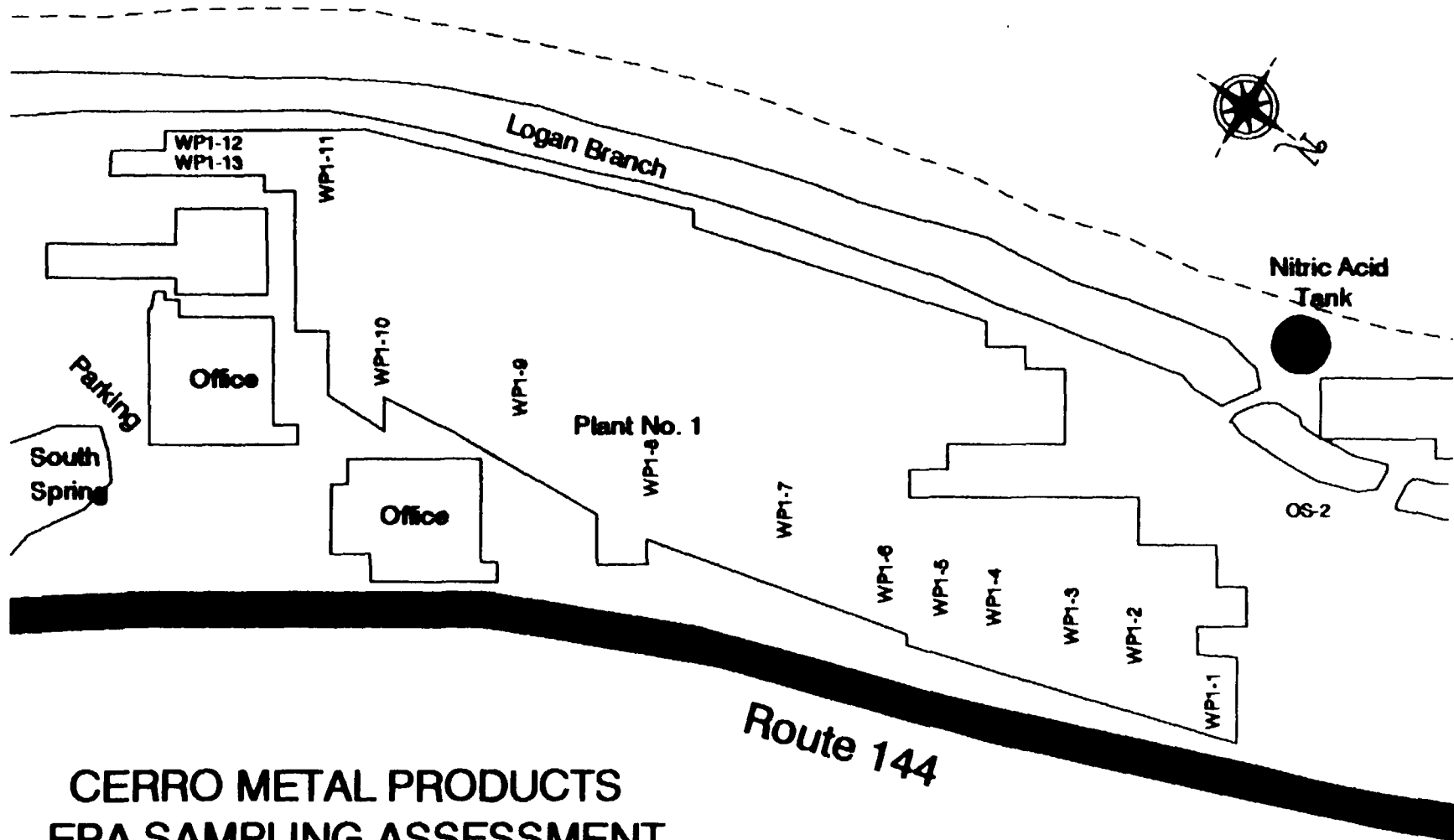


AR100252

CERRO METAL PRODUCTS  
EPA SAMPLING ASSESSMENT  
APRIL 20 - 22, 1993



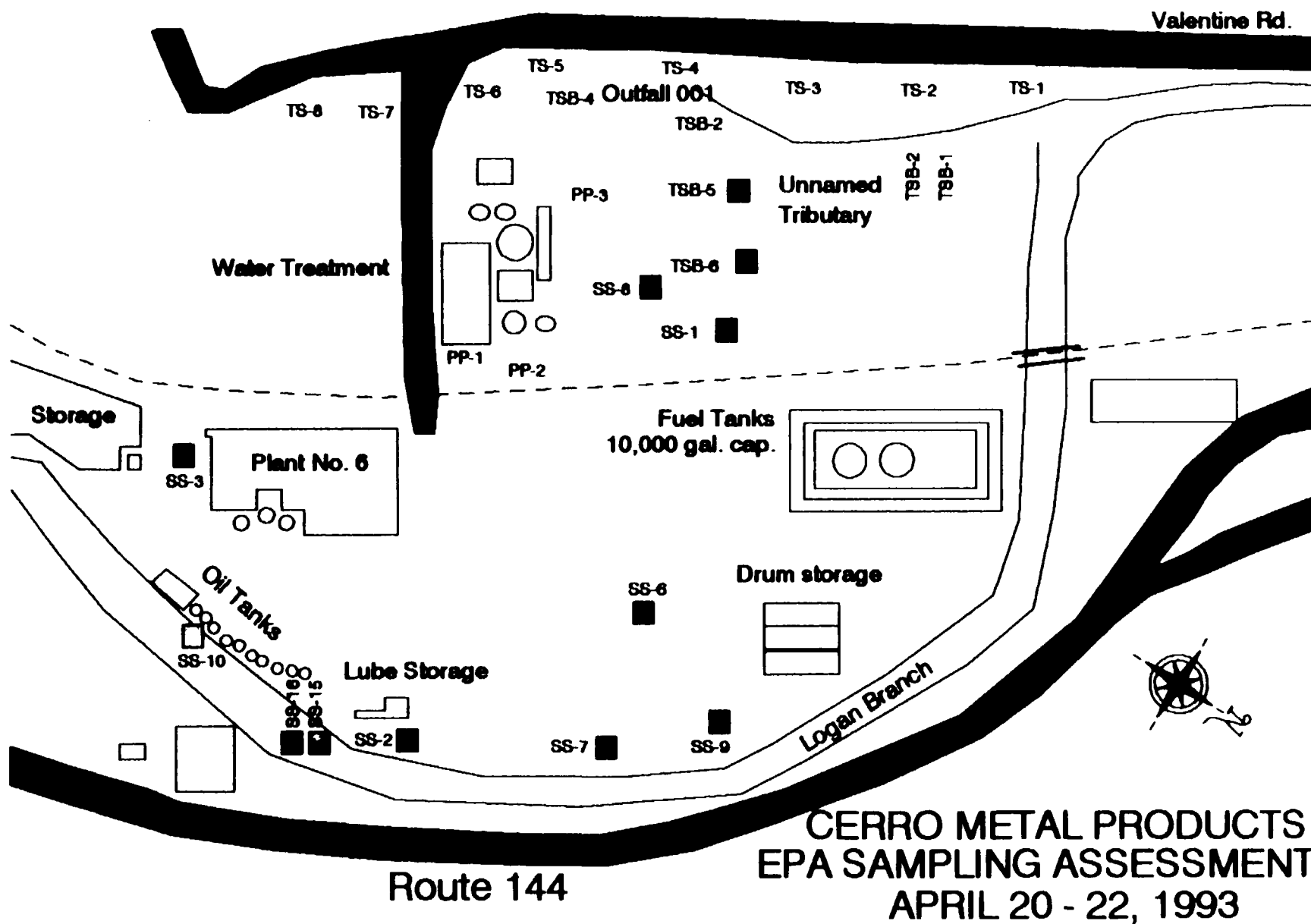
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**CERRO METAL PRODUCTS  
EPA SAMPLING ASSESSMENT  
APRIL 20 - 22, 1993**

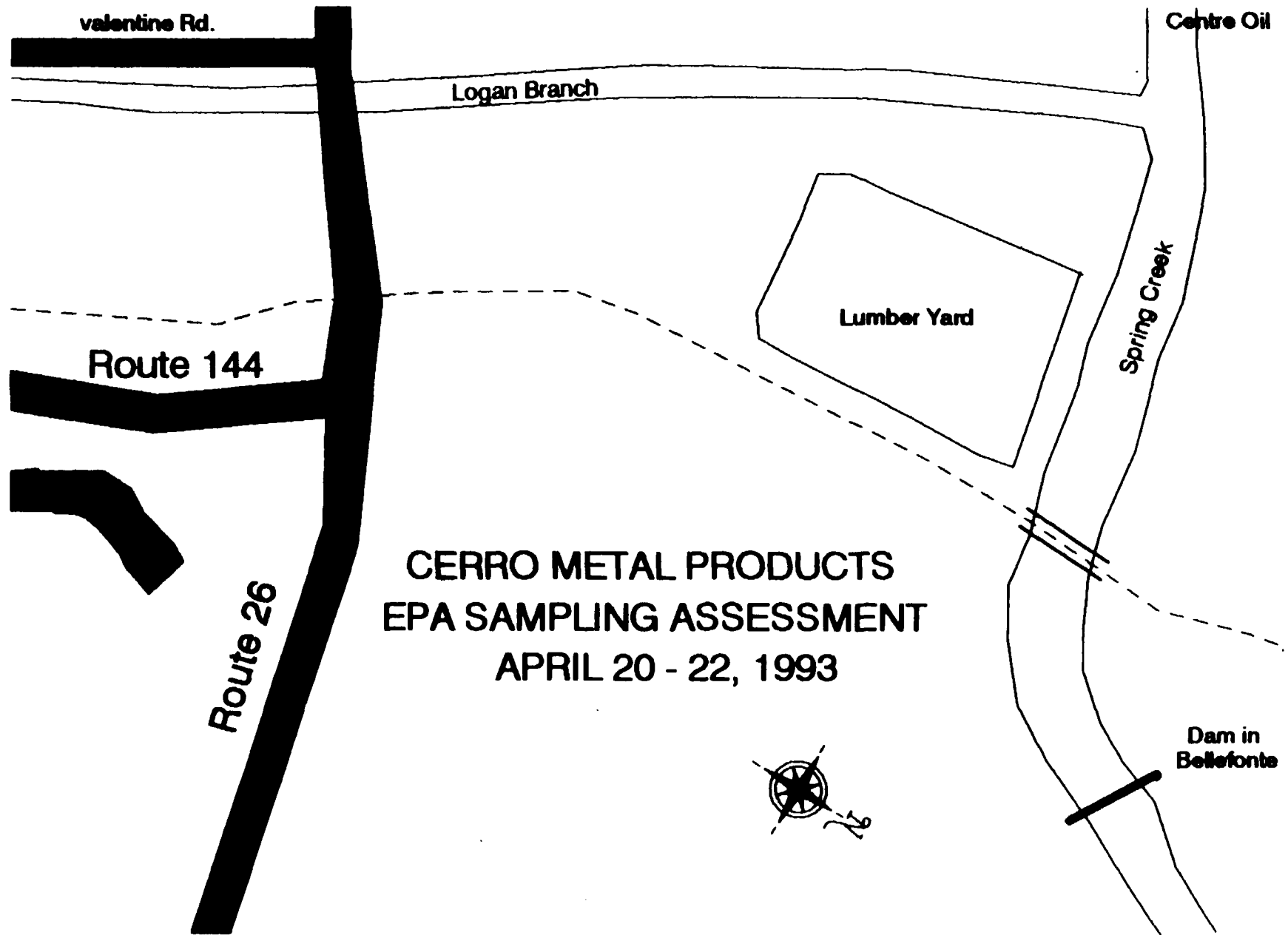
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AR100255

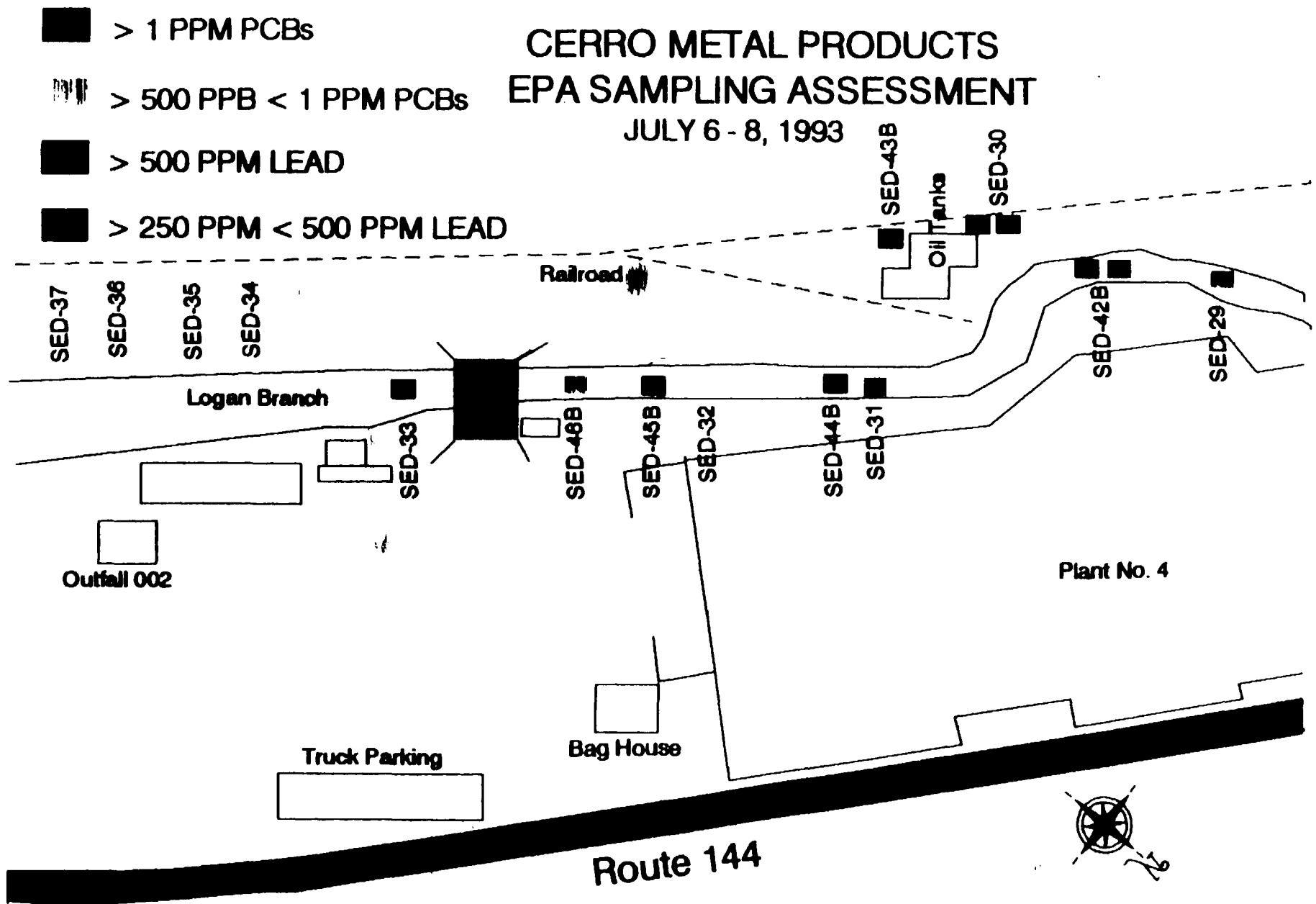


CERRO METAL PRODUCTS  
EPA SAMPLING ASSESSMENT  
APRIL 20 - 22, 1993

AR100256

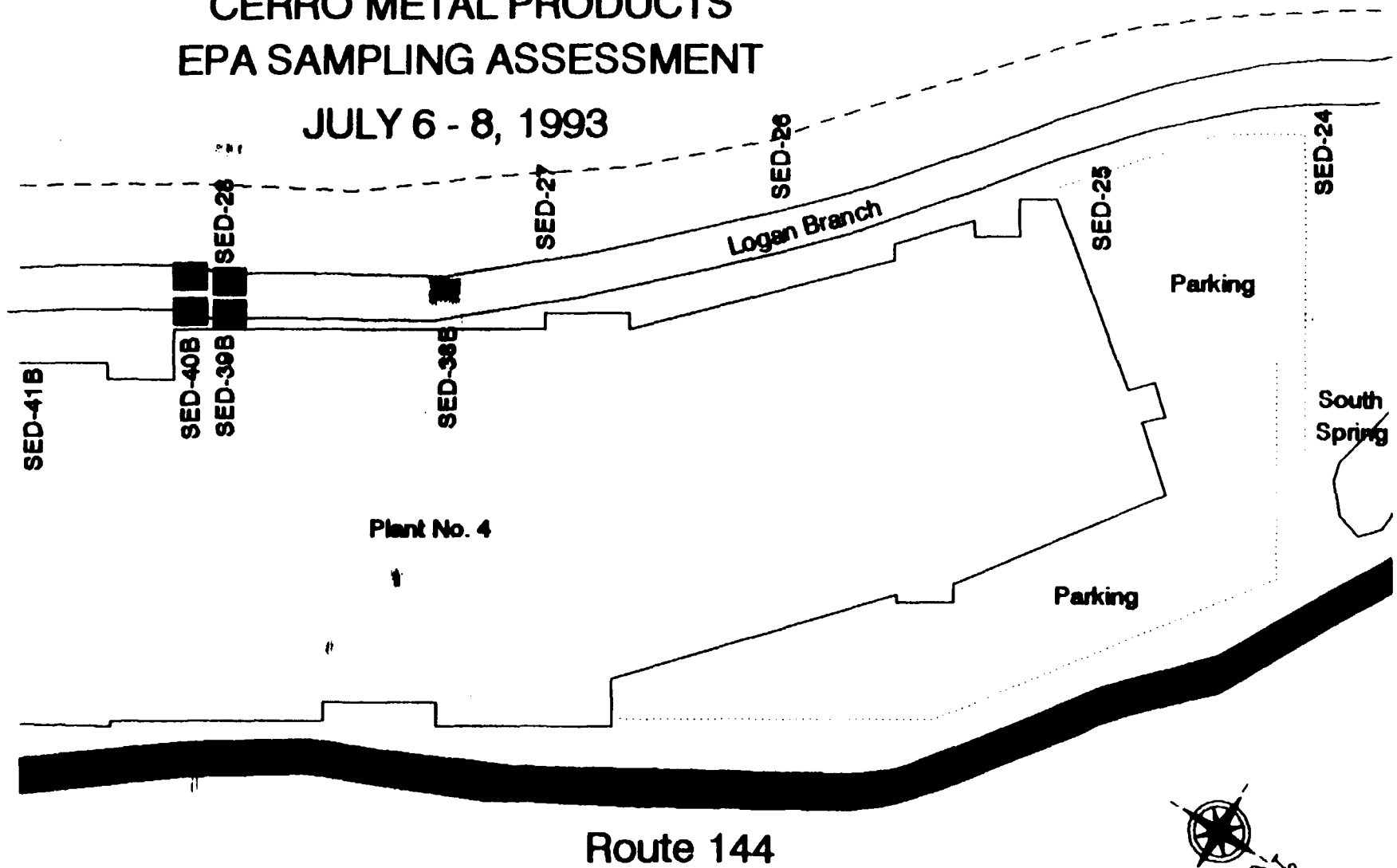


AR100257



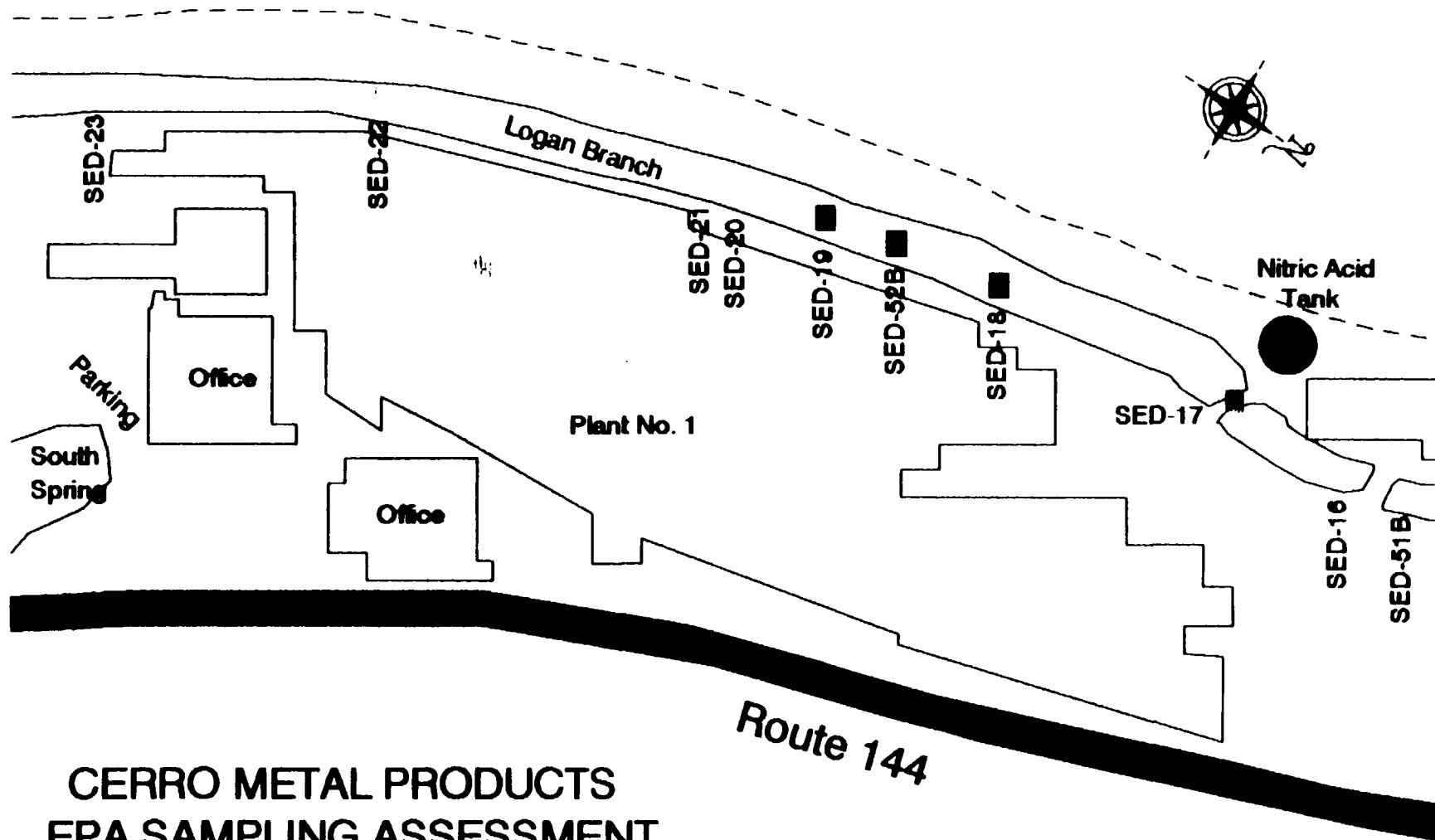
# CERRO METAL PRODUCTS EPA SAMPLING ASSESSMENT

JULY 6 - 8, 1993



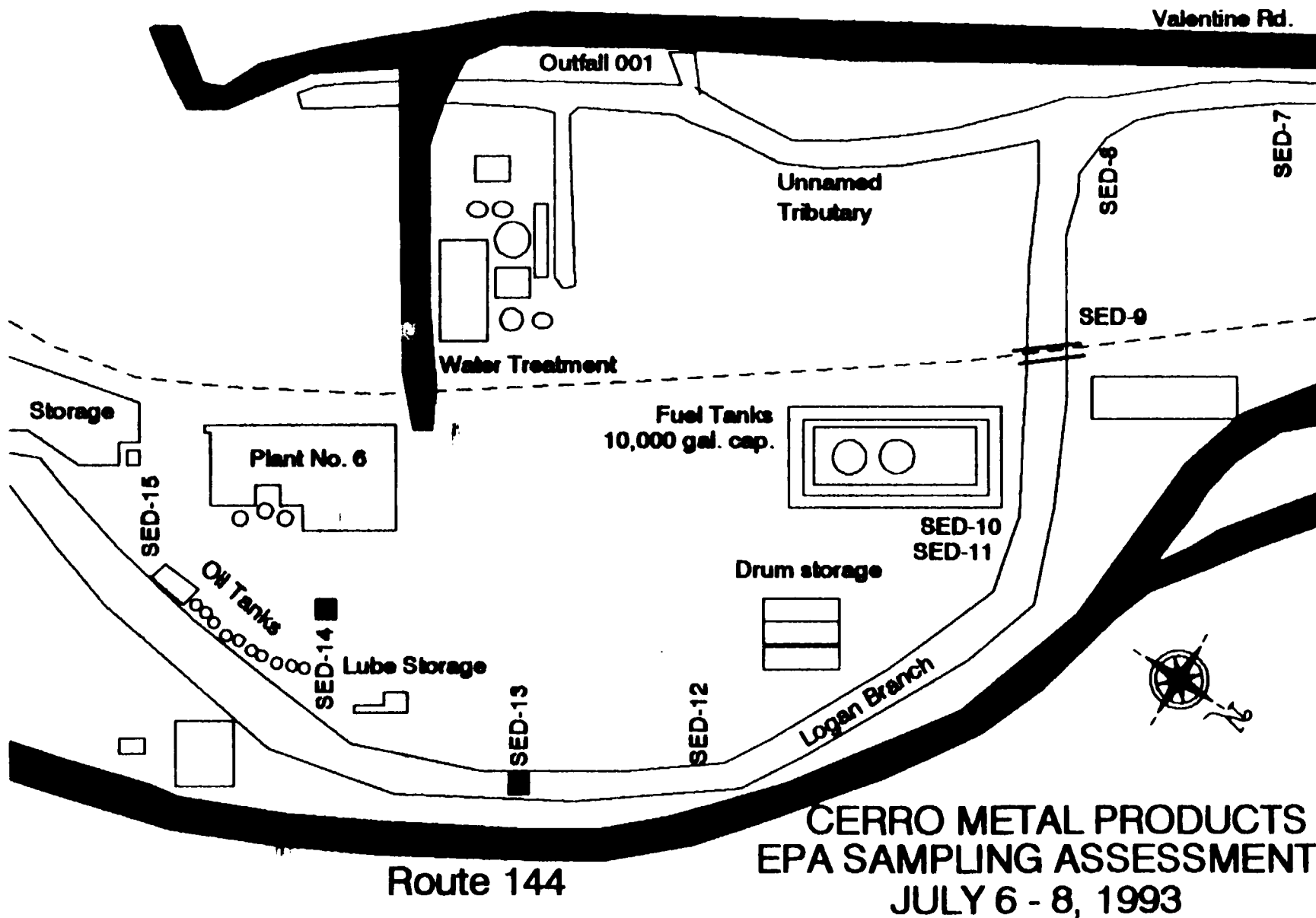
AR100258

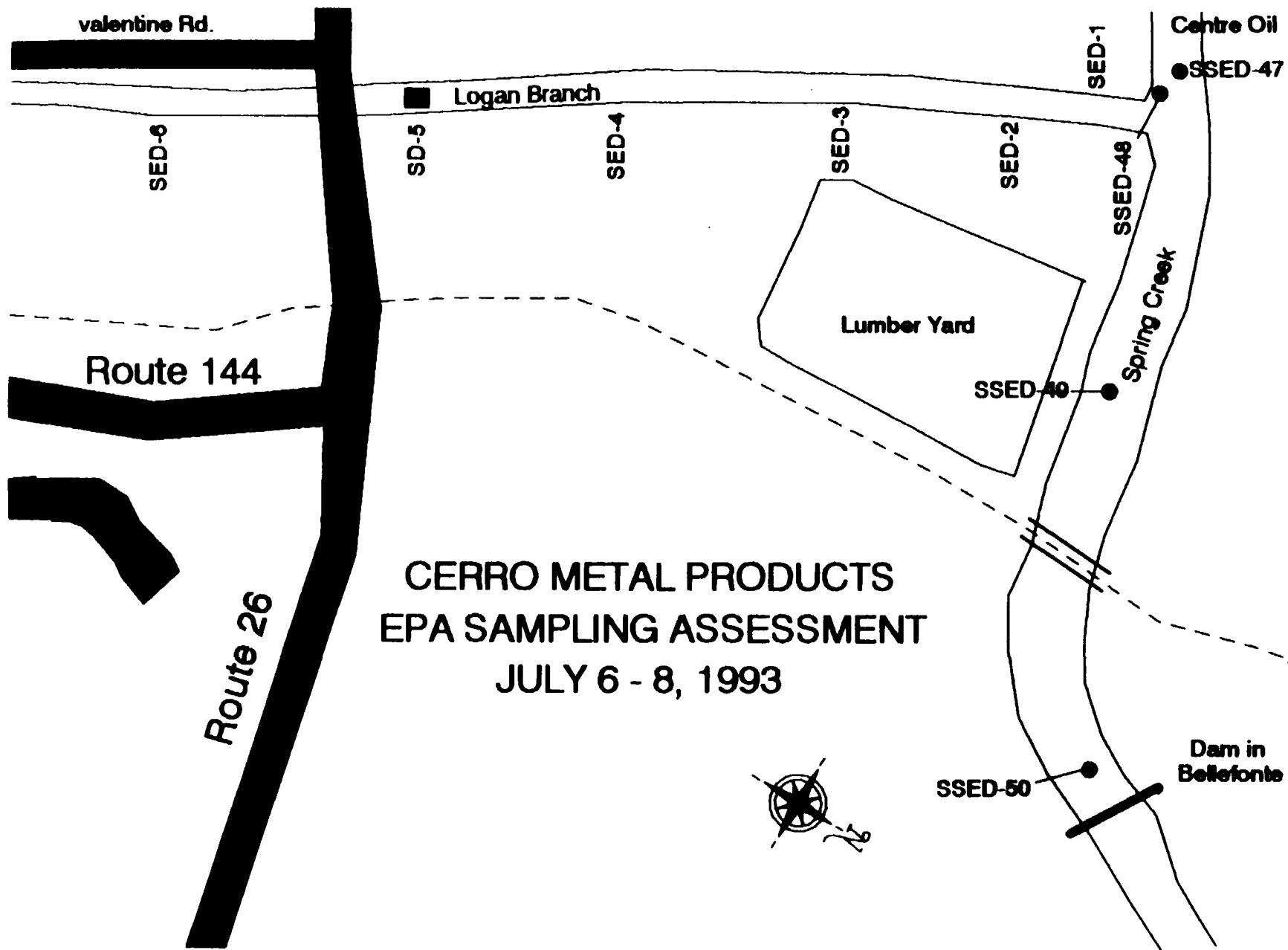
AR100259



**CERRO METAL PRODUCTS  
EPA SAMPLING ASSESSMENT  
JULY 6 - 8, 1993**

AR100260





ARI00261

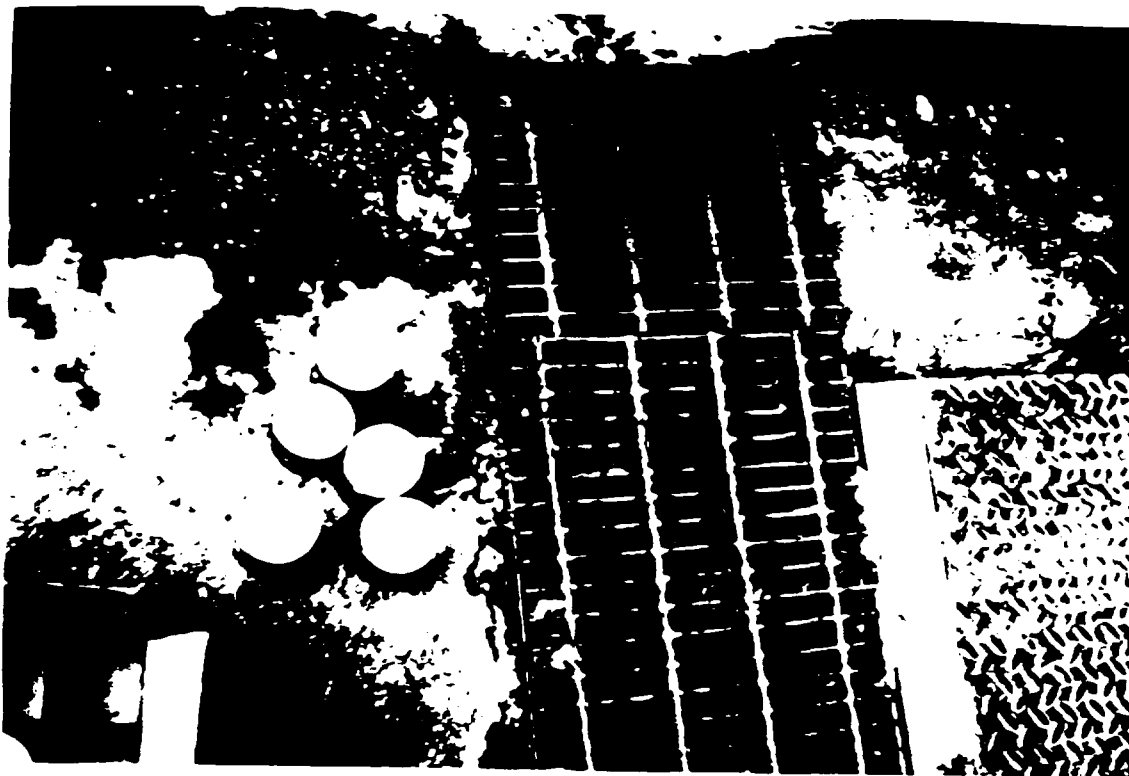


Sample SS-1 Location Taken North of Cerro Metals Products  
Wastewater Treatment Facility



Cerro Metals Products NPDES Permitted Outfall

AR100262

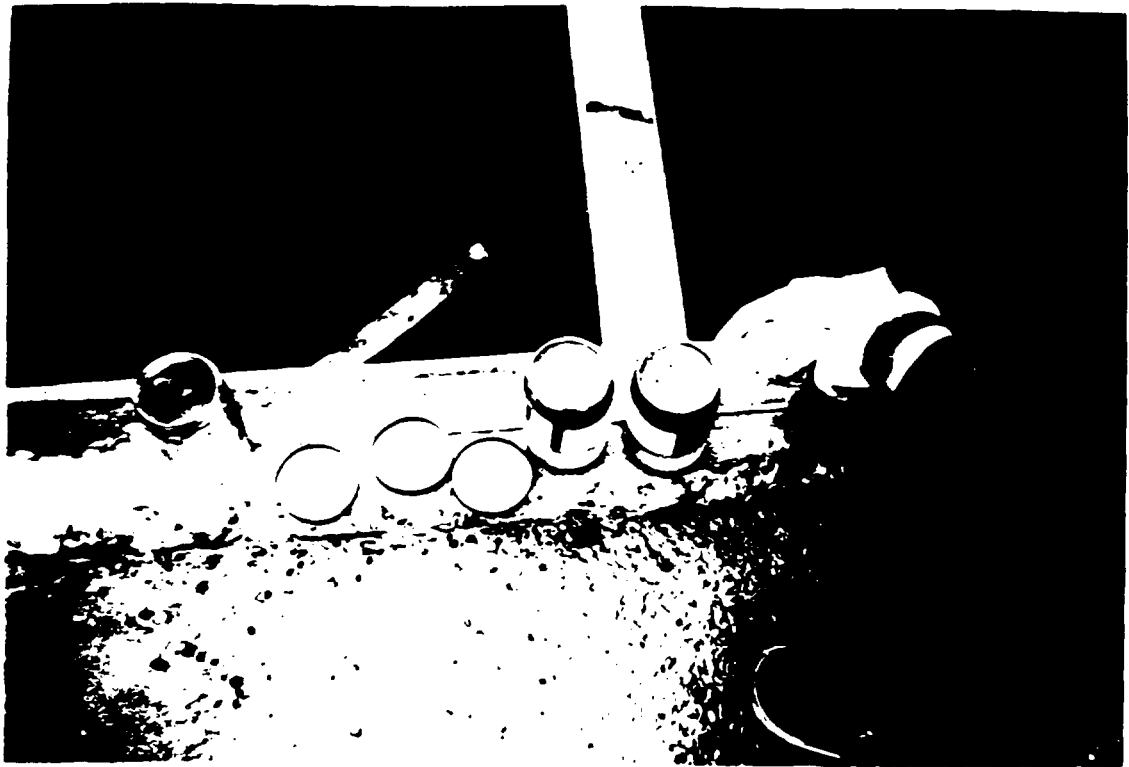


South Drain at the South End of Plant 4



North Side Wastewater Treatment Area Location Overview

AR100263



Storm Drain Interceptor Box North of Plant 1 by Bridge



Bank of Logan Branch, South Lot

AR100264



2800 Feet Up Logan Branch West Bank Side  
10 Feet South of Railroad Bridge



Spring Creek by Dam In Bellefonte

AR100265

**ATTACHMENT V**

**Resource Application Report**  
dated March 16, 1993

AR100266

**8(a) TAT ZONE I  
RESOURCE APPLICATIONS, INC.  
CONTRACT NUMBER: 68-WI-0023**

March 16, 1993

**SUBJECT:** Trip Report for: Cerro Metal Products Company, Agway Petroleum Corporation, University Park Airport, Centre Oil & Gas Company, Nittany Oil Company

**FROM:** Carl R. Smink, P.E., ZPM, 8(a) TAT Zone I  
Jean Swan, Geologist, 8(a) TAT Zone I

**TO:** William D. Steuteville, OSC, Project Monitor, US EPA, Region III

**SUMMARY OF FACILITY SPCC INSPECTIONS**

Five SPCC Inspections were conducted in the Bellefonte - State College area, Pennsylvania from February 16 to 19, 1993. The facilities inspected were Cerro Metal Products Company, Agway Petroleum Corporation, University Park Airport, Centre Oil & Gas Company, and Nittany Oil Company.

**Overview: Cerro Metal Product Company**

Two Weston TAT members, one 8(a) TAT member, and a US EPA representative (Mr. William Steuteville, OSC) conducted an SPCC Inspection and Plan review at the Cerro Metal Product Company facility located in Bellefonte, Pennsylvania. The inspection was conducted on February 17, 1993.

**Facility Description**

The Cerro Metal Product company site is a metal manufacturing facility which produces brass rods, forgings, automatic screws and machine parts. The facility is comprised of six plants and a waste water treatment plant. The plants are designated by numbers from one through six. The plants are in operation 24 hours for at least five days. The facility began operation at this location in 1915. It was previously called the Valentine Iron Works. The total aboveground oil storage is 338,000 gallons. The facility has no underground oil storage. The regulations contained in Title 40, Code of Federal Regulations, Part 112 (40 CFR 112) are relevant and applicable to this facility.

## Facility Location

The Cerro Metal Product Company facility is located in Spring Township, Center County, Pennsylvania. The facility is orientated longitudinally in a north-south direction and parallels the Logan Branch of Spring Creek which runs adjacent to the property. Plants 1, 4, and 6 are located in the northern section of the property, while plants 2, 3 and 5 are located to the south.

## Facility Inspection /Plan Review

On February 17, 1993 at 10:00 a.m., two Weston TAT members, one 8(a) TAT member and Mr. Steuteville, arrived at the Cerro Metal Products Company in Bellefonte, PA to conduct an SPCC inspection and plan review.

The inspection began with an initial meeting with the TAT members, Mr. Steuteville, Mr. James P. Hendricks, Vice President and Mr. James Vaiana, Environmental Engineer of the Cerro Metal Products Company. The following information was disclosed:

- The facility operates and houses six plants. It has approximately 338,000 gallons of above-ground oil storage.
- Oil and fuel oil are stored at four of the six plants
- The facility employs 850 individuals and it is in operation 24 hours a day for five days.
- The Logan Branch of Spring Creek runs adjacent to the property.

Aboveground storage tanks at the facility are as follows:

| PLANT # | TANKS | VOLUME (gallons) | CONTENTS OF TANKS         |
|---------|-------|------------------|---------------------------|
| 2       | 1     | 10,000           | fuel oil                  |
| 4       | 2     | 8,000            | oil                       |
| 5       | 2     | 20,000           | oil                       |
| 6       | 10    | 100,000          | fuel oil                  |
| 6       | 2     | 200,000          | fuel oil                  |
|         |       | 338,000          | Total aboveground storage |

## Spill Prevention and Response Plan Review

A copy of the facility's Spill Prevention and Response Plan was available for review at the time of the inspection. The plan was revised by the company in January 1993. The copy of the plan submitted for the review was not certified, however, Mr. John Sengle, Jr. of the Pennsylvania

Department of Environmental Resources, Water Quality Division, Center County, provided a written approval of the plan. A copy of this letter is provided in Attachment 1. The plan was primarily written to address spills and discharges of substances other than oil. There was no record of any oil spillage at this facility.

### **SPCC Field Inspection**

A plant tour was conducted for the EPA representative and TAT members.

#### **Plant 6**

This plant has ten 10,000 gallon fuel oil tanks in addition to two 100,000 gallon fuel oil tanks. Secondary containment is provided for these tanks and it appeared to be adequate. A concrete dike encloses the ten 10,000 gallon tanks and an earthen dike encloses the two 100,000 gallon tanks. The earthen and concrete dikes are both lined with clay liners. Valves in the diked areas are manually operated gate valves which are kept in a closed position. Drainage water from the diked areas is monitored before draining to the facility's drainage system. The facility's drainage discharges to a culvert and eventually to the Logan Branch creek. The discharge of treated process water to Logan Branch is permitted under NPDES permit number PA 0009202.

A section of the waste oil facility is used as a transfer area for the storage of drums which contain waste oil. At this location most drums and storage containers were labelled; however, no means of secondary containment was provided for the collection of drums which were temporarily staged at this location. The waste oil emptied from each individual drum was eventually collected and stored into a 10,000 gallon storage tank.

The water component, which is separated from the waste oil, is transported to the waste water treatment plant where it is treated appropriately. A polymer is used to separate the oil from the water. The waste water treatment plant is located in the general vicinity of Plant 6.

An additional empty 10,000 gallon tank was located in the vicinity of Plant 6. The tank was not rendered disabled. The hoses and other appurtenances were still attached to the tank and no means of secondary containment was provided for that tank.

#### **Plant 4**

There are two 4,000 gallon aboveground storage tanks containing fuel oil. While adequate secondary containment is provided for these tanks, containment is not provided for the truck loading/off-loading area. The delivery hose and appurtenances are located directly over the creek. A release from a truck loading/off-loading in this area would flow into the creek. No drip container was provided to contain any drips or leaks that may occur.

## Plant 2

At this location there was one 10,000 gallon fuel oil tank. Secondary containment for this tank is comprised of a concrete dike which seemed adequate.

## Plant 5

Plant 5 contains two 10,000 gallon tanks of fuel oil. The concrete dike which provides secondary containment seems adequate.

The SPCC Inspection and Plan Review of Cerro Metal Products Company ended with an exit meeting. Present at the meeting were three Cerro employees, three TAT members and the US EPA representative. The facility's regulatory and environmental practices were discussed.

## Suggestions

The following issues were discussed:

- The inspection team recommended that all empty and miscellaneous drums or containers should be stored collectively in a designated storage area suitable for the respective material and should be labelled accordingly.
- The team suggested that secondary containment be provided for the empty storage tank unless the tank is rendered unusable.
- The team suggested that a containment system should be designed to hold at least the maximum capacity of any single compartment of a tank car or tank truck loading/off-loading at the facility, as specified in 40 CFR 112.7.
- The team recommended that access ways to equipment storage areas should be kept clear, and cluttering and general housekeeping throughout the various plants be addressed.
- The inspection team suggested that the facility run-off be monitored, directed and addressed under the NPDES drainage system.
- The Spill Prevention and Response Plan submitted for review addressed few elements of the SPCC plan in regards to oil storage and spill prevention and countermeasures and did not appear to be a carefully thought out plan. The team recommended that a properly certified and sealed copy of the Spill Prevention and Response plan be provided to the US EPA Region III office.

AR100270

**ATTACHMENT VI**

**Letter from James Vaiana to William Steuteville**  
dated December 15, 1993

AR100271

**ATTACHMENT VII**

**TAT Sample Log for April Sampling**  
dated April 20 -23, 1993

AR100272

1993

into from

+ with

for sampling.

0900 at the

n sampling.

work inside

res steel toes,

3 protection as

to update

Site time

ing: 0800

and 0900

Tuesday April 20, 1993

0800 Meeting at PFBC to brief on sampling plans TAT off site to ~~buy~~ ~~buy~~ buy trays for sample compositing

0900 Meet at Cerro facility with Jim Valiani. Joined by PFBC Mark Hersh, R. DER John Sengel and USFWS Cindy Rice also attended by Jim Hendrick and Fred Ackerman of Cerro.

0915 Group moves to the area of the unnamed tributary. OSC performs walk of tributary bank to identify sample locations. Approximate length of tributary is 360 feet from the confluence to the NPDES outfall. Sample interval will be approximately 30 feet apart in the nearest depositional zone.

1015 TAT begins sampling at the confluence of the tributary and the Logan Branch

10:30 TS1 (10:30) Mouth of Unnamed Tributary to Logan Branch 5-8 oz sediments

11:30 TS2 (11:30) 80' from mouth of Tributary 5-8 oz sediments

11:40 TS2 (11:40) Bias sample between TS2 + TS3 5-8 oz jars collected

12:00 TS3 (12:00) 160' from mouth of tributary 5-8 oz sediment  
TS6 (2) across stream from TS3 5-8 oz sediment

ARI00273

13:30 started sampling TSB3

13:40 TSB3 across stream from  
TS4 5-8oz jars collected  
TS4 240' from mouth of unnamed  
tributary 5-8oz jars collected

13:55 TS5 300' from mouth of  
unnamed tributary 5-8oz jars collected

14:10 TSB4 by Cerro outfall 5-8oz  
jars collected

14:15 TS6 380' from mouth of  
tributary near outfall on street  
side 5-8oz jars collected

14:35 TS7 460' from mouth of unnamed  
tributary upstream of Cerro Outfall  
5-8oz jars collected

14:48 TS8 540' from mouth of  
unnamed tributary upstream  
of Cerro Outfall 5-8oz jars collected

15:10 TSB5 30' in on small tributary  
NW of Cerro Metals which empties  
into unnamed tributary below  
the Cerro Metal Outfall between  
TS5 and TS6 5-8oz jars collected

15:25 TSB6 40' in on small tributary  
5-8oz jars collected

16:20 SS1 soil sample collected north  
of Waste Plant 5-8oz jars collected

16:35 SS2 sediment sample collected  
in the intercept box east of the  
storeroom 5-8oz jars collected

16:53 SS3 soil sample collected south  
of storeroom 2-8oz jars collected

17:0 TAT done

17:40 Sort so  
for the  
ment f

18:30 End of

AR100274

from  
collected  
outh of unnamed  
jaw collected  
north of  
5-8 jaw collected  
fall 5-8 jaw  
mouth of  
fall on street  
collected  
outh of unnamed  
of Clio Outfall  
lected  
mouth of  
upstream  
5-8 jaw collected  
small tributary  
which empties  
tributary below  
stream between  
5-8 jaw collected  
small tributary  
collected  
collected north  
5-8 jaw collected  
collected  
of east of the  
jaw collected  
collected south  
5-8 jaw collected

17<sup>00</sup> TAT departs ~~site~~ <sup>to</sup> for hotel  
1740 Sort samples and pack on ice  
for the evening. Prepare equip-  
ment for sampling tomorrow.  
15<sup>30</sup> End day

AR100275

WEDNESDAY, April 21, 1943

- 0800 TAT, OSC on-site  
 0830 TAT prepping samples for shipment.  
 TAT begins wipe-sampling of  
 plants. Samples (2) to be taken  
 with gauze pads wetted with hexane,  
 at intervals of 100 ft  
 0845 OSC oversees beginning of sampling  
 operations & then attends a  
 meeting with PAPER, Fish Commission,  
 Casco.  
 Sample (wipe) # WP1-1 taken  
 from the eastern side of the north  
 building (Plant 1) at 0 feet. 2 swipes  
 taken. (North end)  
 0850 Wipe Sample WP1-2 taken from the  
 East side of Plant 1 at 100 ft.  
 0855 WP1-3 taken from the East side of  
 Plant 1 (North building) at 200 ft.  
 0858 WP1-4 taken from East side of  
 Plant 1 at 300 ft.  
 0902 WP1-5 taken from East side of  
 Plant 1 at 400 feet.  
 0910 WP1-6 taken from E. side of Plant 1  
 at 500 ft.  
 0913 WP1-7 taken from East side of Plant 1  
 at 600 ft.  
 0915 WP1-8 taken from East side of Plant 1  
 at 700 ft.  
 0919 WP1-9 taken from East side of plant 1  
 at 800 ft.  
 0925 WP1-10 taken from West side of  
 plant at 900 ft.  
 0928 WP1-11 taken from West side of Plant 1

- at 1000 ft.  
 0932 WP1-12  
 Plant 1  
 0935 TAT cont  
 preparation.  
 0945 OSC  
 PAPER, F  
 0950 WP4-1 to  
 at 0 ft.  
 0950 WP4-2 to  
 Plant 4  
 0955 WP4-3 to  
 Plant  
 0958 WP4-4 to  
 Plant 4  
 1002 WP4-5 to  
 Plant 4  
 1005 WP4-6 to  
 Plant 4  
 1008 WP4-7 to  
 at 600 feet  
 1010 WP4-8 to  
 at 700 feet  
 1012 WP4-9 to  
 Plant 4  
 1015 WP4-10 to  
 Plant 4  
 1020 WP4-11 to  
 at 1000 ft  
 1023 WP4-  
 of Plant  
 1027 WP4-13 to  
 Plant 4

21, 1943

2 shipwreck  
sampling of  
to be taken  
with hexamer,  
t

ing of sampling  
Hence a  
, Fish Commission,

1-1 taken  
of the north  
0 feet. 2 Swipes

taken from the  
at 100 ft.  
2 East side of  
at 200 ft.  
East side of

East side of

side of Plant 1

East side of Plant 1

East side of Plant 1

East side of plant 1

West side of

side of Plant 1

at ~ 1000 ft.

0932 WP1-12 taken from South End of  
Plant 1 at ~1100 feet. Samples run N→S.

0935 TAT continues to process samples in  
preparation for shipping.

0945 OSC ~~has~~ still in meeting with  
P.M.G.R., Fish Commission, P.Z.P., etc.

0950 WP4-1 taken from East side of Plant 4  
at 0 ft. (North end)

0950 WP4-2 taken from West side of  
Plant 4 at 100 ft.

0955 WP4-3 taken from East side of  
Plant 4 at 200 ft.

0958 WP4-4 taken from West side of  
Plant 4 at 300 ft.

1002 WP4-5 taken from East side of  
Plant 4 at 400 feet.

1005 WP4-6 taken from ~~East~~ <sup>West</sup> side of  
Plant 4 at 500 ft.

1008 WP4-7 taken from East side of Plant 4  
at 600 feet.

1010 WP4-8 taken from West side of Plant 4  
at 700 feet.

1012 WP4-9 taken from East side of  
Plant 4 at 800 ft.

1015 WP4-10 taken from West side of  
Plant 4 at 900 ft.

1020 WP4-11 taken from East side of Plant 4  
at 1000 ft.

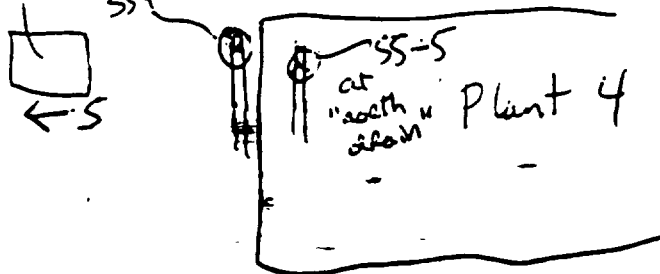
1023 WP4-12 taken from West side  
of Plant 4 at 1100 feet.

1027 WP4-13 taken from East side of  
Plant 4 at 1200 ft.

AR100277

- 1030 WP4-14 taken from West side of Plant 4 at 1300 ft.
- 1035 WP4-15 taken from East side of Plant 4 at 1400 feet.
- 1038 WP4-16 at West side of Plant 4 at 1500 ft.
- 1043 WP4-17 taken from the East side of Plant 4 at 1600 feet.
- 1047 WP4-18 taken from the East side of Plant 4 at 1600 feet (Duplicate). This is the last wipe sample. (South end of plant 4)
- 1100 OSC tours site with PRP representatives after meeting is let out.
- 1140 MT continues prepping sediment, wipe samples for shipping.
- 1250 TAT continues prepping samples. OSC asks ~~TAT~~ to sample two drainage columns at the Southern end of Plant 4 (Sediments - 5 8oz jars each) and sediments at the Lot discharge interceptor at the South end of Plant 4, by the creek.
- 1350 TAT takes sample SS4 at south drain at South end of plant 4. (Sediments - 5 8 ounce jars).

Lot discharge  
interceptor



- 1400 Sample SS of Plan (St-802).
- 1430 TAT and at Lot water wa informs TAT sam a blank
- 1500 Sample S yard of of the
- 1525 SS- in the (4-802)
- 1540 SS-8 + water TR yard. S (4-802)
- 1605 SS-8 - Branch North
- 1625 SS-10 Branch of tank
- 1740 TAT cor for ship samples
- 1810 samples shipping TAT
- 1820 sample taped up

West side  
side of  
of Plant 4  
East side of  
East side  
et (Duplicate).  
Sample.  
Representatives  
t.  
sediment, wipe  
samples. OSC  
two drainage  
end of  
8000 jars each)  
Lot discharge  
with end of Plant  
at south drain  
4. (Sediments - 5)

AR100279

- 1400 Sample SS-5 taken at North drain  
of Plant 4. (See map prev. page)  
(5-8000 jars of sediment collected).
- 1430 TAT unable to sample sediments  
at lot interceptor discharge because  
water was over 4 feet deep. TAT  
informs OSC Steuterville.  
TAT samples WPI-13, which is  
a blank wipe sample (cyanide, hexane).
- 1500 Sample SS-6 taken in the North  
yard of the site in the center  
of the driveway. (4-8000-soil)
- 1525 SS-7 taken along inside of fence  
in the north yard, by Logan Branch.  
(4-8000 soil)
- 1540 SS-8 taken on North side of waste-  
water treatment bldg. in old sludge  
yard. Soil was discolored (green).  
(4-8000 soil).
- 1605 SS-9 taken on the Bank of Logan  
Branch outside the fence near the  
Northwest corner of the north yard.
- 1625 SS-10 taken on the bank of Logan  
Branch behind oil tanks (north end  
of tanks.)
- 1740 TAT continues to prep samples  
for shipping.
- 1810 Samples packed in cooler for  
shipment.
- 1820 TAT obtains ice to complete  
sample shipment. Cooler is  
taped up and ready to go.

1830 Arrive at Federal Express at  
 State College. Airport. Package  
 is mailed  
 1900 End day

AR100280

Thurs  
 0800 TAT, OSC  
 0830 TAT prep  
 OSC + T  
 identity  
 Jim Vidone  
 0930 OSC Ste  
 Fred Ack  
 locations  
 TAT den  
 1030 TAT col  
 soil/sedi  
 Branch a  
 docks an  
 1035 TAT colle  
 scene  
 (4 8 -  
 1045 TAT dete  
 collection  
 of plant  
 Branch, a  
 is unable  
 The water  
 1115 TAT dete  
 at Lajon  
 plant 4 e  
 of fence  
 1125 TAT dete  
 Repair st  
 to be se  
 a confine  
 water, vi  
 into T  
 after

at  
storage

Thursday, April 22, 1993

- 0800 TAT, OSC on-site.
- 0830 TAT preparing samples for shipping  
OSC + TAT Speicher tour site to  
identify new sample locations.  
Jim Vidura accompanies on tour.
- 0930 OSC Stenterville informs Jim Vidura,  
Fred Ackerman, + TAT of all sample  
locations. Roman Wasilowski to accompany  
TAT during sampling operations.
- 1030 TAT collects sample SS-11 (4 E & E)  
soil/sediment from bank of Logan  
Branch at South lot between loading (Plant)  
docks and lot discharge interceptor.
- 1035 TAT collects sample SS-12 from  
same location (as SS-11) as a duplicate.  
(4 E & E.) (Called "South Culvert" - duplicate)
- 1045 TAT determines that the Solids  
collection interceptor box just South  
of Plant 4 loading docks by Logan  
Branch, North of time clocks shed,  
is unable to be sampled because  
the water level is too high.
- 1115 TAT ~~determines that~~ sample SS-13  
at Logan Branch bank, West side of  
Plant 4 outside and ~30 yards South  
of fence behind extrusion section.
- 1125 TAT determines that Plant 4  
Repair stock room sump is unable  
to be sampled safely. Area is  
a confined space and partially full of  
water, with a broken ladder leading  
into it. TAT will inform OSC  
after finishing soil samples.

AR100281

- 1140 TAT sampled SS-14 outside Plant 4 on bank of Legum Branch, south of acid tank, south of acid spill area, ~10 yards south of black-colored tool & part dust collection bin, at the bend in the building.
- 1205 TAT sampled SS-15 behind Oil Shed by oil tanks. (4 8oz)  
TAT sampled SS-16 in same location. SS-16 referred to as "Landing Strip" on C.O.C. as dupe play.
- 1220 TAT continues prepping samples for shipment.
- 1310 TATs Murphy & Ray describe from site with samples to be shipped this date.
- 1400 TATs concocting on long handled "scoop" to sample Repair Stock Room Sump.
- 1430 TAT sampled plant 4 Repair Stock Room Sump by using a 32 oz jar taped to a new wooden broom handle (with strapping Fed-Ex type tape). 4 8oz sediment samples were collected. Sample # SS-17
- 1510 TAT collected 2 8oz samples of aqueous solution (oil phase) from TAM4-S Sump. Sample # OS-1.
- 1540 TAT collected 2 - 32oz aqueous samples with an organic layer from storm drain intercept box north of Plant 1 by the bridge, Sample # OS-2

- 1620 TAT collected ambient water-wastewater
- 1635 TAT sample in hut.
- 1700 TAT Sample 12 voc. C
- 1730 TAT Sample Skinner final clean discharge 4 samples
- 1800 TAT Sample box with 4 S
- 1830 TAT (comp TAT + ) 1 PM (130 to Relinqu TAT off
- 1845 TAT punch samples & preserve
- 1900 End day

AR100282

14 outside  
Legion  
acid tank,  
11 area, ~ 10  
black-colored  
collection bin,  
the building.  
15 behind  
rks. (4 32 oz)  
in same location.  
is "Landing Strip"  
play.  
ing samples

any damage  
samples to be

ing handled  
own stock

Repair stock  
ing a 32 oz  
nickel brom  
s Fe-Ex type  
out samples  
e # SS-17  
3 samples of  
(pink) from  
sample # CS-1.  
02 aqueous  
layer from  
length of Plant 1  
# OS-2

- 1620 TAT collected 4 vials + 4 32 oz  
amber bottles of aqueous soln. at  
wastewater influent. Sample # PP-1.
- 1635 TAT sampled sanitary water discharge  
in hut. 4 amber, 4 vial, PP-2.
- 1700 TAT Samples PP-3, 12x2 volume, 12 amber  
12 vial. in waste plant discharge one.
- 1730 TAT samples PP-4 from South let  
skimmer discharge. Sample taken at  
final area before last beam, prior to  
discharge into Legion Branch. 4 vials  
4 ampoules
- 1800 TAT samples solids collector intercepter  
box with a brown handle / jay rig.  
4 32 oz samples labelled SS # 18. (Plant 4)
- 1830 TAT completes sampling operations.  
TAT + Jim Valencia to meet at  
1 PM (1300 hours) on Friday 4/23/93,  
to Relinquish Split samples  
TAT off-site.
- 1845 TAT purchases ice to re-preserve  
samples taken yesterday, + to  
preserve samples taken today.
- 1900 End day

AR100283

Friday April 23, 1993

- ~~0900-0900~~ Begin paperwork and processing  
for samples taken yesterday
- 13<sup>00</sup> Sample labeling completed, Samples to  
be transferred to Cerro at 1500.
- 15<sup>00</sup> Arrive at Cerro and meet with Jim  
Vaiana. Transfer 2 coolers full of  
samples to Cerro's custody. Copies of  
Chain-of-custody acquired and filed in the  
site file. Samples checked against  
chain-of-custody and all are present.
- 15<sup>30</sup> Depart Cerro Property and drive to  
Delran.
- 20<sup>00</sup> Arrive in Delran, End day



AR100284

**ATTACHMENT VIII**

**TAT Sample Logs for July Sampling**  
dated July 6 - 8, 1993

**AR100285**

TUESDAY JULY 6, 1993

0550 TATS mobilize to site

1200 TAT arrives State College - check into hotel

1300 TAT arrives on-site

1330 TAT meets with OSC Steuteville  
Partner Rep John Single, & Ceres Rep  
John Mann.

1345 TAT preps for sampling operations

1430 TAT begins sampling Logan Branch  
downstream of Ceres Metals plant.

1435 SED-1 taken at the mouth of Logan  
Branch as it meets Spring Creek.

<sup>grab</sup> ~~Composite~~ sample (4 80Z jars) taken  
from west bank (under water). Light  
sheen visible when sample was taken.  
Sample point flagged & marked "Q tie".

1500 SED-2 taken at 200' upstream of  
Q mark. Taken from East side by corner  
of fence at the park (Logan Branch).  
4 - 80Z jars - composite grab.

1510 Late note: At 1400 hours OSC Steuteville  
stopped at Borough Hall to inform  
Borough Manager of sampling activities  
in Logan Branch. Borough Mgr. not in;  
OSC left card and explanation & notice  
that he could be reached through Ceres,  
Arlington Hilton, or at Logan Branch.

1520 SED-3 taken at 420' due to lack of  
sediment at 400'. 4 - 80Z jars taken  
at this <sup>grab</sup> ~~composite~~ location in Logan Branch.

1530 E spot above 600' marks

East Bank SED 4 - TEN

SHEP 1 FT - low clay, small sediment, lg sand

- 1600 SED-5 ~ 20 South of 800 mark  
taken from East bank ~ 20' downstream  
of House on West Bank just below  
the bridge. Sample taken at ~ 830'  
mark, house at ~ 840' mark
- 1615 1000' ft. mark east bank a-  
litter 94 sign SED-6 taken  
15' south or upstream of sign  
on the west bank.
- 1640 SED-7 at 1200' mark by 'Lone.  
Dead tree' on West Bank ~ 15'  
North (downstream) of an asphalt  
dump 4 807 jar composite grab ~~this~~  
Sample location is ~ 6 feet upstream  
(South) of 1200' mark on East  
bank
- 1700 SED-8: 1400' mark is ~ 8' North  
of a large stump in the middle  
of channel which is west of main  
channel of the stream. Sample  
taken immediately North + West  
of that point.
- 1710 SED-9 - 1600' location is 10' north  
of R. bridge Sample taken  
under Railroad bridge under  
West pier. 10' above South of 1600'  
~~mark~~ <sup>10'</sup> mark
- 1730 SED 19 800' Telephone Pole small  
circular black Building East  
of 2 large Fuel Tanks  
to Sample location 10' above (North)  
1800' FT mark

- 1745 SED-11 taken at location SED-10  
- as a duplicate
- 1800 SED-12 taken ~ 10' upstream of  
- ~~the~~ mark on east-bank near  
telephone pole on 144.
- 1820 SED-13 at 2200' mark on the  
west bank at the truck sign. Sample  
taken ~ 10' north of mark.
- 1822 CSC discusses site operation with  
concerned Resident, Janice Hull  
of 338 Reynolds Ave, Bellefonte, PA 16823  
(814) 353-9498. CSC requested that  
a full report be sent to Mrs. Hull  
upon completion of project.
- 1835 SED-14 ~ 25' upstream of 2400' mark  
on west bank across from corner of  
cinder block garage on 144.
- 1900 SED-15 taken on the 2600' mark  
on the west bank by the Gabian  
baskets.
- 1910 TAT continues prepping samples  
for shipping.
- 2000 TAT off site

*[Signature]*

*cont*

WEDNESDAY JULY 7, 1993

0730 TAT ON-SITE - meet OSC, Jim Viana,  
+ Ron Huey - Roden Rep.

0815 SED-16 collected ~ E of north ~~(~~3200~~)~~  
at 3200' mark - taken from west  
bank. Mark is ~ 10' south of building

0830 OSC off-site to meet with Foreman  
Mgt - FRDER Rep Ron Huey to  
take ~ E samples to test biota

0845 SED-17 4' upstream (south) of  
mark on East bank 3000' mark  
is at the oil/water separator

0905 SED-18 taken on the 3200' mark  
on East bank. Mark is 4' south  
of where yellow pipe comes into  
building. ~~(Plant 1)~~

945 SED-16 ~~16~~ <sup>6 am</sup> ~~16~~ EAST bank on 3400  
25' south of Tree Bay Plant 4

0930 SED-19 taken at ~ 4' south of  
3400 mark on East bank under  
a bush (late entry)

0950 SED-21 taken at SED-20  
location as a duplicate.

1030 SED-22 taken at 3800' mark under  
elevated corrugated 12" pipe.

1055 SED-23 taken just upstream of a  
pipeline that goes into stream ~ 6'  
upstream of 4000' mark (East bank).

1110 SED-24 ~ 15' north of corner  
of elevated parking lot taken  
at 4200' mark - East side

1130 SED-25 East side taken on the  
4400' mark which is 40' south  
of the ~~South~~ <sup>North</sup> side of Plant 4.

AR100289

about 1100' - OSC = 1000' w/ water  
Peterson. Relocation Branch. Map  
of about Sampling locations.

- 1155 SED 26 4' feet above Mark 4800  
30' South of Transformer
- 1205 SED - 27 taken at 4800' 30' ft. South  
of turn in Plant 4 - west side.
- 1400 SED 28 taken at 5000' on west bank  
10' downstream of vented cutback.
- 1420 SED - 29 East Bank at 5200'  
~ 5' ft from 2' unit (window)  
downstream)
- 1440 SED 30 - 20' feet upstream  
West Bank 10' feet Downstream  
at Railroad Bridge.
- 1500 SED - 31 at 5600' ft mark. Sample  
taken on East bank 4' South of  
Toma - 5 outflow Free oil visible
- 1525 SED - 32 25' North of South corner  
of plant 4. East bank. Taken on  
5800 foot mark.
- 1540 SED - 33 taken at 6000' mark, EAST bank,  
under southeast corner of bridge.
- 1545 SED 34, 6200' 30' F.T. Downstream  
of oil water separator
- 1600 ROW HUGHES, PETER Aguilar Biologist,  
offsite. At OSC request, 8 samples  
(water) were taken along Logan Branch  
as shown in map filed under  
"SAMPLING/ANALYTICAL FILE". Analytical  
parameters used were: T.O.C., susp Solids,  
Total dissolved Solids,  $\text{NO}_2\text{N}$ ,  $\text{NO}_3\text{N}$ ,  
 $\text{NH}_3\text{N}$ , and Cl, as shown on example  
'water or waste quality Report', filed in  
same file. Sample map contains old data  
to be ignored. Water sample locations

are marked with black X's. Cervo  
 Rep. Jim Variana accompanied R. Hugley  
 during sampling.

1615 SED-35 taken at 6600' (400 foot  
 interval per OSC Request) taken  
 at mark (6600') east bank  
 just upstream of 2nd dam in S-curve

1630 SED-36 taken at 7000' (OSC Request)  
 from West Bank at South corner  
 of cinder block bldg on Rt. 144

1700 SED-37 taken at 7400' (OSC Request)  
 from East bank 15' downstream  
 from border of Dan Shawley  
 excavation bldg.

1730 OSC marking Random biased sample  
 locations in Logan Branch.

1800 TAT completes sample processing  
 & relinquishes custody of all  
 split samples to Cervo Security Guard-  
 TAT office

0710

0730

0800

0830

0845

0855

0915

0950

1000

AR100291

TUESDAY JULY 8, 1993

0710 TAT, OSC on-site

0730 OSC showing TAT random biased sample points

0800 TAT accompanies OSC to Spring Creek to locate sample points. John Sengle of FAPOR & Jim Vaiana - CERS accompany TAT & OSC. John Sengle to assist OSC in determining sample locations

0850 4 sampling points located along Spring Creek - 2 above Logan Branch, 2 below.

OSC requests that John Sengle take fecal coliform samples along Logan Branch. Mr. Sengle will use the sampling map provided yesterday by Mr. Hughes and choose his sample locations according to locations of water samples taken yesterday.

LATENT ENTRIES

0845 SED 38 B - BIAS, 100' downstream of vented culvert PCB ONLY

0855 SED 39 B - BIAS EAST BANK  
~~FATOP~~ across from S1028  
PCB - metal

0915 SED 40 B - Bais out of vented  
CULVERT 10' FT South of SED 39

0950 SED 41 B - 100 FT downstream  
of SED 29 EAST BANK  
taken at 0930, PCB ONLY

Sed 42 B 100 FT North of RTR Bridge  
metals + PCB BOX CULVERT  
Taken at 950

1000 Sed 43 B - AT Tunnel in BLDG 4  
Scatter RTR BRIDGE

ARI00292

3 jars.  
4 from  
Sediment

North

h of  
load

ner of  
runk.

Free

ch  
ek.

on of  
over Co.  
(S) side

Dam  
stream

as for  
lp

Long  
for

ne  
City

1545 SED-52 obtained from sand  
bag impoundment along Plant 1  
along the Logan Branch. 3-8oz  
jars and 4-VOA jars obtained  
1-8oz and 2-VOA to Cerro as split  
1-8oz to CLP for PCB; 1-8oz and 2-VOA  
to separate Lab for quicker turn-around  
time and analysis for PCB/~~PA~~ Pesticide,  
VOA and BNA.

1605 SED-44 VOA samples taken at  
same location as original sample.  
To be submitted to separate lab  
(same as SED-52) for additional analysis.

1615 TAT continues sample packaging  
and labeling for shipment.

1705 Split samples transferred to  
Cerro Custody (SED38B to SED52)

1800 TAT completes shipment  
packaging and labeling and  
has packed up sampling equipment.  
TAT off site to deliver samples.

1825 Samples transferred to FedEx  
Custody for shipment to Labs.

Organics to ITAS/Knoxville

on Airbill 4274690663

multi-package label 9861002656

Inorganics to American Analytical

Airbill 4274690652

1830 End day

AT

AR100293

**ATTACHMENT IX**

**Letter from Thomas Schmick, PADER, to EPA  
with Attachments  
dated December 30, 1994**

**AR100294**



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
200 Pine Street  
Williamsport, PA 17701-6510  
December 30, 1993

**Northcentral Regional Office**

Mr. William D. Steuteville  
On-Scene Coordinator  
Superfund Removal Branch  
U.S. EPA - Region III  
841 Chestnut Building  
Philadelphia, PA 19107-4431

RE: Industrial Waste  
Cerro Metal Products Company  
Spring Township, Centre County

Dear Bill:

This letter is to provide you with the Pennsylvania Department of Environmental Resources' (PADER) comments on the trip report and site evaluation report for the Cerro site. Attached are separate comment memos from (1) Ronald Hughey, Water Pollution Biologist, and (2) Martha Kern, Hydrogeologist.

In your letter dated December 15, 1993, you requested PADER to notify EPA of our intent to maintain the site lead and address the issues presented in your site evaluation report. As you indicated in our recent telephone conversation, the data is very compelling and indicates the need for some immediate removal of some highly contaminated areas on-site as well as further comprehensive site study and long-term site remediation by Cerro. The following paragraphs are to provide you with a brief history of our involvement with Cerro and to state our intention to maintain the site as the lead agency to address the issues of contaminant removal, comprehensive site-wide evaluation and long-term remediation, provided we obtain the cooperation of Cerro.

PADER identified PCB contamination on the Cerro property in 1987 and 1988. Some of the contamination areas identified revealed high levels of PCBs (up to approximately 1,000 ppm). As a result of the high PCB levels, we referred the site to EPA-TSCA to handle in 1988-1989. Upon referral of the site to EPA-TSCA, we thought the PCB problems would be properly handled. We were aware that EPA-TSCA personnel had made visits to the site. In April of 1992, PADER discovered a new release of PCBs. Due to this new release, we again became involved in the PCB issue at Cerro. Upon investigation, we found that EPA-TSCA really did not do much to address the PCB problems.



Through 1992 and 1993, PADER has been working with Cerro to conduct some immediate PCB remedial work and to conduct some discrete studies of portions of its property (Die Cast-Plant 1, and the Melt areas-Plant 4). Although these studies are somewhat limited in scope and extent, we accepted them as a start in an effort to obtain more site information on contamination in known or suspected PCB use areas. Upon receipt of your trip report and site evaluation report, it has been revealed to us that the Cerro site has substantially more environmental problems than we realized.

PADER is willing to commit to take on this case if Cerro Metal Products Company is willing to enter expeditiously into Consent Orders and Agreements with PADER requiring Cerro to:

1. Conduct immediate removal of known high level contamination areas that could affect health and safety of employees and the general public.
2. Conduct a comprehensive site-wide EPA-Superfund quality remedial investigation/feasibility study (RI/FS) providing remedial recommendations. This comprehensive study is to also include Plant 5. It will be necessary for Cerro to employ a competent hydrogeological consultant familiar with this process. This process needs to be conducted for the environmental media of soil, ground water, sediment and surface water.
3. Implement the remedial alternative chosen by the Department as a result of Step 2 above.

Should Cerro not be willing to conduct this extensive effort with PADER, we will recommend that the case be rated for national priority listing as an EPA Superfund site with EPA oversight.

Sincerely,



Thomas M. Schmick  
Chief, Operations Section  
Water Management Program

cc: John Arway, Pa. Fish & Boat Comm.  
Paul F. Swanson, Pa. Fish & Boat Comm.  
John Sengle  
Martha Kern  
Joan Sattler  
Ron Hughey  
Larry Newcomer

TMS/bls

AR100296

COMMONWEALTH OF PENNSYLVANIA  
Department Of Environmental Resources  
December 30, 1993  
717-327-3636

**SUBJECT:** Industrial Waste  
Cerro Metal Products Company  
Spring Township, Centre County

**TO:** Thomas M. Schmick  
Chief, Operations Section  
Water Management

**FROM:** Martha H. Kern *M. H. Kern*  
Hydrogeologist  
Water Management

The purpose of this memo is to comment on the draft site Evaluation of Cerro Metals by William D. Steuteville of EPA, received December 1993.

I agree that there are current discharges from several areas of the property through runoff, ground-water discharge, and drains or piped discharges. I also feel that historic releases could still be represented by concentrations in existing sediments. Logan Branch does have areas of relative calm where the sediments are not being transported quickly downstream. In addition, it should be noted that the highest concentration of PCB's in sediments (380 mg/kg) was found in the sample SED-40. Very high concentrations of metals in sediments were also found in SED-40. This sample was obtained from inside a culvert, not from Logan Branch. At that particular culvert, shown as a 30 inch concrete drain on the plant #4 diagrams, water apparently is impounded behind a small wall, thereby reducing the velocity and allowing sediments to be deposited inside the culvert. This discharge structure used to receive cooling water from TAMAS 1-4 (as well as from other sources) where PCBs are known to have been used. Perhaps this box structure actually prevented some PCB discharges to Logan Branch from historical practices and represents, in part, a concentration of historic sediments from the melting department. This may be a current discharge and/or a historic discharge point. The soil just upstream of SED-40 represented by SS-13 had the highest concentrations of metals of all the soil samples. Something is clearly happening in this area.

Wipe sample WP4-12 had the highest wipe sample concentration of PCBs at 28 ug/wipe. I do not know at this time exactly where the sample was taken, but it appears to be in the area of TAMAS 1 and 2. Wipe sample WP4-16 at 14 ug/wipe was the next highest

AR100297

concentration of PCBs from wipe samples and was taken near the TAMA 5 outfall. The area at or near the discharge pipe of the dewatering well for TAMA 5, or the overflow pipe for this well is clearly a discharge point for PCBs to Logan Branch. The actual source may be somewhere else, however, and somehow picked up by the TAMA 5 dewatering system and discharged to Logan Branch at that location.

Based on previous data and data presented in a report by Geraghty and Miller entitled "Die Cast Department Assessment Report, August 1993," the die cast area of plant 1 is a current source area. The data in this report also suggest a potential source area near the tool and die department and the Oil House adjacent to Logan Branch. Further investigation here is indicated. I agree that the north yard is yet another source area of PCB contamination, and further investigation is needed, especially near the oil tanks and lube storage area.

In addition to the two primary substances of concern (PCBs and lead) other metals such as copper and zinc should also be of great concern, as should petroleum hydrocarbons. In attempting to identify source areas for contaminants of concern, we should include the possibility of atmospheric desposition from air pollution. This site has had a history of air quality discharge problems, and the atmosphere may be another mechanism for transport of polluting substances.

It is my opinion that immediate and interim remedial measures be taken to remove contaminants from the environment. I also agree that a comprehensive investigation be performed to identify elevated concentrations of pollutants, as well as to find source areas and means of transport. A long term remedial action plan should them be developed.

AR100298

COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Resources  
December 30, 1993

**SUBJECT:** Logan Branch  
File #22997  
EPA Cerro Site Assessment

**TO:** Thomas M. Schmick  
Chief - Operations Section  
Water Management  
Northcentral Region

**FROM:** Ronald E. Hughey *REH*  
Water Pollution Biologist III  
Operations Section - Water Management  
Northcentral Region

EPA's Cerro site assessment was precipitated by presence of PCBs in Logan Branch sediments. However, their assessment generated a lot of metals data and most of my comments concern that data.

Long and Morgan (1990) and MacDonald (1992) have conducted extensive reviews of the sediment toxicity literature and devised guidelines for predicting the probability of biological impact for many toxic materials. Most of the literature they reviewed was from saltwater or brackish systems, but it is all that we have for now. Because we lack site specific toxicity data for Logan Branch we have extracted the following "levels of concern" from their data:

Lead 200 ppm  
Copper 300 ppm  
Zinc 400 ppm

PADER does not have criteria for stream sediments and these numbers are not offered as such. Rather, they represent levels that are likely to harm aquatic life based on the scientific literature.

The stream sediment data in the Roy F. Weston Technical Assistance Team report included metals data for 45 main stem sites. Our "concern" levels were exceeded as follows:

Lead 11 sites  
Copper 37 sites  
Zinc 32 sites

AR100299

While lead and PCBs may pose the larger human health threats, this data implicates copper and zinc as the most consistent threats to aquatic life in lower Logan Branch. It confirms the high sediment metals concentrations we found at Logan Branch mile 0.3 in October; and, the high metal zone meshes almost perfectly with the zone of depressed macrobenthic communities that we have been trying to explain for years (Hughey 1993, 1990 & 1989).

Most of the sites that did not have high levels of copper and zinc were at the "background" locations. Low concentrations at background stations and on-site soil sampling confirmed that the Cerro site was the source of these metals.

I predict that the copper and zinc concentrations alone will necessitate removal of all fine sediment deposits in lower Logan Branch. Some level of sediment toxicity testing, and perhaps some site remediation, should precede full scale stream sediment removal.

If Cerro removes all fine sediment deposits to remove copper and zinc, they will incidentally remove PCBs, lead, and anything else that is there. Pervasive copper and zinc contamination may make precise mapping of instream PCBs and other contaminants superfluous. I will probably want to reconfirm, with my own data, that lower Logan Branch biota is still depressed before I ask for full scale sediment removal.

#### Other Comments

- p. 11 - Our fish tissue data indicates that people eating Logan Branch fish are not currently at risk due to PCB or lead contamination.
- p. 14 - Proposed action 1. I concur that areas represented by samples SED 44 and 40 should be remediated as soon as possible.
- p. 14 & 15; proposed actions 2 & 3. Although they do not pose human health threats, if Logan Branch biota is ever to recover, copper and zinc hotspots must also be mapped on the Cerro site and steps taken to keep these two metals out of the stream.

#### LITERATURE CITED

- Hughey, R.E. 1993, 1990 & 1989. Aquatic Biological Investigations of Logan Branch. Unpublished memos, PA DER files, Williamsport, PA.
- Long, E.R., and L.G. Morgan. 1990. The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program. NOAA Tech. Memo. NOS OMA 62. National Oceanic and Atmospheric Administration, Seattle, WA. 175 pp.

MacDonald, D.D. 1992. Development of an integrated approach to the assessment of sediment quality in Florida. Prepared for FL DER. MacDonald Environmental Services, Ltd. Ladysmith. Britis Columbia. 114 pp.

AR100301

**ATTACHMENT X**

**Letter from Mark Hartle, PAFBC, to EPA  
dated January 10, 1994**

AR100302



COMMONWEALTH OF PENNSYLVANIA  
PENNSYLVANIA FISH & BOAT COMMISSION  
Division of Environmental Services  
450 Robinson Lane  
Bellefonte, PA 16823-9616  
(814) 359-5147

January 10, 1994

Mr. William D. Steuteville  
U.S. Environmental Protection Agency  
841 Chestnut Building  
Philadelphia, PA 19107-4431

Re: Draft Site Evaluation  
Cerro Metals Site Assessment

Dear Mr. Steuteville:

The Pennsylvania Fish and Boat Commission appreciates the opportunity to review the draft Cerro Metals site assessment. I would like to offer the following comments from the PFBC's perspective as aquatic resource trustee.

PADER WATER QUALITY DATA, page 4

The nitrate levels above 4 mg/l are higher than normally found in Pennsylvania surface waters. Elevated nitrate could be caused by agricultural sources such as manure and fertilizer. I strongly suspect analysis was conducted for chloride, not chlorine. I concur with EPA's conclusion that "it appears unlikely that the Facility is responsible for additional degradation of Logan Branch with these analytes".

EPA SAMPLING OBJECTIVES

A heading entitled EPA SAMPLE RESULTS AND DISCUSSION should be added on page 5 below the three defined sampling objectives, since discussion thereafter reflects results rather than objectives.

OTHER CONTAMINANTS, page 10

Zinc should be added to lead and copper. Zinc concentrations approximate copper in most sediment samples.

Lead, copper and zinc concentrations are at levels found to be toxic to a number of aquatic organisms (Long and Morgan 1991) throughout Logan Branch sediments on the Cerro property to the stream mouth.

AR100303

Mr. William D. Steuteville  
January 10, 1994  
Page 2

Stream bank soils with very high concentrations of lead, copper and zinc, as well as PCBs, may perpetuate contaminated stream sediments through erosion.

Sediment samples upstream and downstream of the bridge at the south end of the Cerro facility and soil sample SS-18 show very high lead, copper and zinc concentrations for reasons that are not readily apparent.

#### PEOPLE EATING FISH FROM LOGAN BRANCH

The Pennsylvania Fish and Boat Commission strongly supports the need to sample fish tissue for PCBs as well as lead, copper, and zinc as part of a remedial investigation to accurately characterize human health and environmental risks.

#### ENVIRONMENTAL EXPOSURE AND IMPACT

The Pennsylvania Fish and Boat Commission contends that detrimental environmental effects associated with the Facility have already been observed. PFBC would not support a full battery of sediment toxicity tests since in situ effects to invertebrates and fish have been demonstrated (PFBC 1988; R. Hughey, PADER, personal communication; PFBC 1993).

#### PROPOSED ACTIONS

Cerro should quickly develop alternatives to remediate sediments containing high levels of PCBs, lead, copper, and zinc with concurrent stabilization of bank soils that contain elevated concentrations of these contaminants. The contiguous section of stream from the south end of the Cerro property to the mouth of the Logan Branch should be addressed. Bank stabilization alternatives should target "hotspots" and areas prone to erosion.

Potential impacts of contaminants from Cerro on Spring Creek, downstream from Logan Branch, should be investigated.

Add ~~m~~onitoring of lead, copper, and zinc to fish tissue sampling (Item 7).

#### SCHEDULE

The schedule presented would allow swift remediation of the contaminant sources and reduction of environmental and human health hazards.

AR100304

Mr. William D. Steuteville  
January 10, 1994  
Page 3

References

- Long, E.R. and L.G. Morgan. 1991. The potential for biological effects of sediment-sorbed contaminants in the national status and trends program. NOAA Technical Memorandum NOS OMA52. U.S. Dept. Commerce, NOAA. Seattle, WA.
- PFBC (Pennsylvania Fish and Boat Commission). 1988. Memo, "Logan Branch, Centre County Fish Population Studies," from R.T. Greene to R. A. Snyder, Div. of Fisheries Management. September 26, 1988.
- PFBC. 1993. Draft report, "Aquatic Biological Survey, Logan Branch, Centre County, July 1992 and August 1993," C. Mark Hersh, Division of Environmental Services. August 1993.

Please consider these comments in a revision of the draft site visit report. The investigations to date have been well conceived and informative. John Arway and I will gladly assist with the development of additional site investigation plans and remediation. Please contact me at (814)359-5116 if my comments generate any questions.

Sincerely,

*Mark A. Hartle*

Mark A. Hartle, Fisheries Biologist  
Division of Environmental Services

MAH:dms

cc: J. Arway, B. Hollender - PFBC  
R. Hughey, M. Kern, J. Schmick - NC Regional DER Office  
C. M. Hersh - USFWS

AR100305

**ATTACHMENT XI**

**Letter from Mark Hersh, USFWS, to EPA  
dated January 6, 1994**

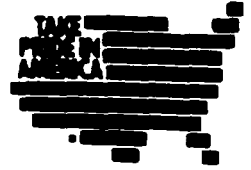
**AR100306**



# United States Department of the Interior

FISH AND WILDLIFE SERVICE

Suite 322  
315 South Allen Street  
State College, Pennsylvania 16801



January 6, 1994

Mr. William D. Steuteville  
On-Scene Coordinator  
Superfund Removal Branch  
USEPA Region III  
841 Chestnut Building  
Philadelphia, PA 19107-4431

Re: Draft Site Assessment Report, Cerro Metals Products

Dear Mr. Steuteville:

Please allow me to complement you and your staff on a well-written report. The extensive information it contains will allow all parties to make intelligent decisions regarding the Facility. The Service had hoped for a far-reaching study of the site and your assessment has certainly provided this. Our detailed comments follow, following the appropriate headings of your report.

## PADER WATER QUALITY DATA

Page 5, line 4 -- "Chlorine" should probably read "chloride." The results of the samples taken by PADER do not indicate any appreciable inputs of conventional pollutants by Cerro. Data gathered by the PFBC in 1992 agrees with the 1993 PADER sampling, but also indicated increases in the water column concentrations of some metals. Given the high concentrations of metals in sediments, it is likely that Logan Branch water has increased concentrations of metals due to the Facility. In addition, past PADER data indicate aqueous inputs of PCBs to Logan Branch. **Determining** the amounts of contaminants in water should be included in any monitoring plan.

## EPA SAMPLING OBJECTIVES

Other Contaminants:

Zinc should also be considered a contaminant of concern, since zinc concentrations in sediments are much greater than background and are at concentrations likely deleterious to aquatic life.

AR100307

PADER Data -

Discussed above.

### SAMPLE LOCATIONS

I'm confused about the "SED" prefix on samples. In some cases the text refers to actual stream sediments and in others, to sediments taken from outfall pipes. Could the actual sample locations be listed in a table?

Similarly, can I assume that the "SS" samples of April that are marked on the map as being adjacent to Logan Branch are all from stream bank soils? If so, can exact locations be provided?

### ENVIRONMENTAL EXPOSURE AND IMPACT

The increased concentrations of copper, lead, zinc, and PCBs in stream sediments are the likely cause of the adverse impacts on the aquatic biota of Logan Branch that are extensively documented in both PADER and PFBC files. If not the direct cause, the presence of the contaminants inhibits biological recovery following the acutely toxic incidents that occur periodically. Either way, the Facility is responsible for the chronically depressed biological communities adjacent to and below the Facility. In addition, the unnamed tributary's sediments also contain elevated concentrations of the four contaminants. In this stream, activities from Cerro, including the NPDES discharge has caused severe impacts to aquatic life. I am not aware of any studies of the biota of Spring Creek that would determine if damage extends below the Logan Branch confluence.

It is difficult to determine "trigger" concentrations of the four contaminants. Long and Morgan (1990) examined many field studies (some of the more pertinent freshwater data is attached); those numbers (and other numbers representing background levels) should be considered along with the site-specific circumstances, namely 1) background (upstream Logan Branch) concentrations; 2) the interaction between at least four contaminants; and 3) the consistent toxic effects observed. Taking all that into account and examining the data (keeping in mind that the majority of the samples are unbiased interval samples) leads me to believe that every site adjacent to and downstream of Cerro should be considered for remediation. Given the nature of sediment transport in streams and the probable difficulty in removing sediments from some sites, the periodic cleaning of accessible sites should be considered. A long-term monitoring plan (sampling water, sediments, and biota) needs to be developed to assess the effectiveness of the remediation (see below, # 7 PROPOSED ACTIONS).

AR100308

Historical data show that Logan Branch fish exhibit increased concentrations of PCBs in their tissue. These PCBs will likely cause direct adverse impacts to fish health. Also, as these fish are consumed by predators, the PCBs will advance up the food chain, and migrate from the site. Unlike the impact to the aquatic environment, it is difficult to estimate the extent and amount of damage caused by the PCBs to these higher trophic levels. It is imperative that the migration of PCBs from the site cease as quickly as possible to halt possible the adverse affects to piscivorous birds and mammals, as well as the aquatic biota itself. For the same reasons, remediation of existing contaminated stream sediments must be expedited.

## **MIGRATION AND FURTHER RELEASE OF HAZARDOUS SUBSTANCES**

As noted above, biota can transport hazardous substances, increasing risks to humans and other biota.

## **PROPOSED ACTIONS**

2. Copper and zinc should also be considered contaminants of concern. The levels of copper and zinc in Logan Branch sediments are dramatically higher than upstream concentrations and those normally found in freshwater sediments. The combination of the four principle contaminants (copper, zinc, lead and PCBs) at the concentrations found in Logan Branch can cause adverse effects to aquatic life.

3. As with number two, copper and zinc should also be considered contaminants of concern.

7. The results showed elevated sediment concentrations of contaminants of concern in Spring Creek. Baseline biological sampling upstream and downstream on Spring Creek is needed. Monitoring all contaminant (Cu, Pb, Zn and PCBs) concentrations in outfall pipes and at various instream locations (Logan Branch, its unnamed tributary, and Spring Creek) is necessary for both sediments and water. More sediment samples are needed from Spring Creek to determine the extent of contamination downstream of the Logan Branch confluence.

An assessment of stream sediment cleanup techniques and removal/stabilization of contaminated stream banks must be done. Once inputs to Logan Branch have ceased (removal of contaminated soil and stream sediments, and removal/stabilization of stream banks), regular biological monitoring of Logan Branch, the unnamed tributary, and Spring Creek should be initiated to assess the streams' recovery.

Past sampling of fish tissue for PCBs has shown detectable levels below the FDA action level. I believe that the stream is sampled every other year (or every third year) by PADER. The existing data should be carefully examined to determine if the data are adequate or if more

baseline (before remediation) data are needed. Once inputs have ceased, sampling should be done as part of an overall monitoring protocol.

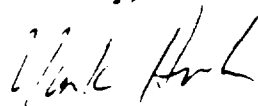
If questions remain (I do not believe any remain) regarding the damage done to the aquatic biota, toxicity could be confirmed using biological monitoring, aqueous phase toxicity testing, and/or sediment toxicity testing. This should not delay any of the proposed actions or the overall goals of halting contaminant inputs to the aquatic systems or the removal of highly contaminated stream sediments.

## **SCHEDULE**

Recommendation # 7 should be implemented according to a schedule approved by PADER, but with approval/input from PFBC and input from USFWS.

Thank you for the opportunity to comment. I look forward to discussing the results on January 11. If you have any questions before then, I can be reached at 814-234-4090.

Sincerely,



C. Mark Hersh  
Environmental Contaminants Specialist

Attachment

## **Reference**

Long, E.R. and L.G. Morgan. 1990. The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program. NOAA Tech. Memo. NOS OMA 62. National Oceanic and Atmospheric Administration, Seattle, WA. 175 pp.

AR100310

Selected Freshwater Data from Long and Morgan (1990). Metals in ppm, PCBs in ppb.

| No. | Observation                                      | Cu   | Pb   | Zn  | PCBs |
|-----|--|------|------|-----|------|
| 55a | sig mort to <i>D. magna</i> and <i>Hexagenia</i> | 1374 | 32   | 267 | --   |
| 72  | 66% mort to <i>H. azteca</i> .                   | 19.5 | < 32 | 127 | --   |
| 74  | sig mortality to prawn                           | 145  | 253  | 290 | --   |
| 55b | low mort to <i>D. magna</i>                      | 135  | 79   | 216 | --   |
|     | sig mort to <i>D. magna</i>                      | 540  | 160  | 570 | --   |
| 54  | not toxic to <i>D. magna</i>                     | 43   | 11   | 69  | --   |
|     | sig toxic to <i>D. magna</i>                     | 730  | 29   | 168 | --   |
| 54  | [mean] in least toxic sediments                  | 24   | 10   | 62  |      |
|     | [mean] in most toxic sediments                   | 612  | 27   | 154 | --   |
| 55c | sig mort to <i>D. magna</i> and <i>Hexagenia</i> | 1800 | 110  | 310 | --   |
| 29  | 95% mort to <i>H. azteca</i>                     | 156  | 300  | 320 | 4300 |
| 60  | high taxa richness n=16                          | 62   | 57   | 182 | 31   |
|     | low taxa richness n=7                            | 77   | 144  | 327 | 190  |
| 61  | high taxa richness n=16                          | 19.5 | 21   | 96  | 7    |
|     | low taxa richness n=8                            | 45   | 31   | 107 | 128  |

"No." refers to reference number in Long and Morgan (1990), while a small letter after the number refers to a site within the reference.

**ATTACHMENT XII**

**Letter from James Hendrick, Cerro, to EPA  
dated February 9, 1994**

AR100312

## CERRO METAL PRODUCTS CO.



BELLEFONTE WORKS  
P. O. BOX 368  
BELLEFONTE, PA 16823

February 09, 1994

Mr. William Steuteville  
On-Scene Coordinator  
United States Environmental Protection Agency  
Region III  
841 Chestnut Building  
Philadelphia, PA 19107

Dear Mr. Steuteville,

Cerro Metal Products Company (Cerro) would like to thank you for your time, commitment, and assistance in helping us meet our goal of being an environmentally responsible corporate citizen. Your insight on these matters and your suggestions are appreciated. We also want to thank you for the opportunity to comment on the draft assessment of our site and are doing so by way of this letter.

Cerro comments as follows on the Proposed Actions set forth on pages 14-16 of the Draft Site Evaluation:

- 1) Cerro has developed and is implementing plans to address concerns at SED40 and SED44. The plans address the removal and disposal of contaminated materials from both locations as well as the rerouting of a roof drain and the inactivation, decontamination and sealing of SED40. The plan will also evaluate the piping system for SED44. Cerro intends to complete this work by March 15, 1994 subject to weather conditions and/or permitting processes if any.
- 2) Cerro has conducted and is continuing to implement plans to identify and remediate, as appropriate, areas of its plant with elevated levels of metals and PCBs. Remediation is underway in the Die Cast Area. Subsurface investigation of the Tama-5/melting area is approved and is being implemented. The results from these investigations will provide information to prepare future work plans in this area. This phased approach is being conducted in accordance with the time tables contained in the work plans. Efforts thus far have been directed toward PCB investigation. In order to identify the extent of known contamination from suspected hot spots and or to develop an appropriate soil remediation plan Cerro will conduct additional sampling (including possible statistical sampling). Sampling of the soils is directly weather dependent and will be started as soon as weather permits. Sampling plans will be developed prior to the implementation of said sampling.



A member of The Merrimack Group of companies

AR100313

- 3) Based on the results of the work outlined in #2, areas that require remediation will be addressed by developing work plans (with time tables) for approval. This is to be done expeditiously.
- 4) Cerro is implementing the approved work plan in the melting area. This investigation is expected to generate data necessary to direct additional investigations and/or remediation work plans, if required. Cerro will consider the feasibility and the practicability of slurry walls as part of an evaluation of remedial options, if necessary and required. Cerro will accomplish this in an expeditious manner.
- 5) Cerro is identifying and accessing all pipes and outfalls from the facility into Logan Branch and will complete this within the EPA time frame. Those not in use will be removed or sealed as appropriate.
- 6) Cerro will review the Resource Applications Report, Facility SPCC plan and amend or update the SPCC plan. This will be completed per EPA suggested schedule.
- 7) Cerro will have biannual testing performed for PCBs levels and metal levels on fish collected by Pennsylvania Fish and Boat Commission. Sediment sampling of Logan Branch will be conducted in a maximum of three sediment deposition zones as agreed to by Cerro and PADER. This will be accomplished within the agreed upon schedule with PADER.
- 8) Based on split samples collected by EPA throughout the facility only two samples possibly were subject to TSCA regulatory standards. The first of these, collected in the middle of the North Yard, underwent removal immediately following receipt of sample results. The second area, generally located by SED40 is being addressed in accordance with EPA proposed schedule in item 1.
- 9) Cerro intends to conduct these response actions in accordance with all applicable Federal, State and Local laws and regulations.
- 10) Cerro will consult with a knowledgeable party on worker health and safety issues. Cerro Metal Products Company is very interested and committed to its employees and has been conducting blood lead level and pulmonary function testing to monitor employees and work place conditions for many years.

- 11) Cerro intends to work on a voluntary and cooperative basis with PADER, on the stated issues of this Site Evaluations Proposed Actions.

In addition to the foregoing comments on the proposed actions Cerro makes the following comments on the Draft Site Evaluation.

Cerro requests that the cooperative working relationship that existed during your site visits be referenced in the initial paragraph of the draft report.

Cerro cannot comment on the technical accuracy or appropriateness of the sampling performed because we cannot verify whether or not appropriate technical protocols were followed in conducting the sampling or analyzing the samples. We do feel that the sampling locations in many cases were biased/worst case locations.

Because no sampling of the stream bank on the side owned by the railroad was conducted, the sampling effort fails to evaluate other significant potential sources of PCB contamination. Railroads historically have been users of oil containing Arochlor 1248. Also drainage from Route 144 needs to be a consideration.

Under the heading PCB Discharges, you conclude that there are current/ongoing PCB discharges from the site. The sampling conducted showed what existed at the time of the sampling event and nothing else. It is not possible to reach the conclusion stated above based on the data gathered to date.

The report continues with "The Tama 5 area is certainly a source of ongoing PCB discharge". Again, it is not possible to reach such a conclusion based on the data collected, as we advised we have sampled a major outfall from this area and found it to be less than detection on each occurrence. The report should simply note what the samples show.

Under the heading The Cerro Source on page 8 of the report, it is concluded that Cerro is the PCB source. We strenuously object to this conclusion in that it is not possible to so conclude if the existing data and sound scientific principles are applied, and full consideration is given to other potential sources.

On page 9 of the report under Historic Operations vs. Current Operations Source, it is again concluded that PCB's are still being discharged from the Facility. We object to this conclusion.

We feel that it is premature to conclude that an ongoing discharge of metal exists.

AR100315

February 09, 1993

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To the extent that the site assessment/site evaluation report becomes part of an administrative record, we request that you include this letter as part of any such administrative record.

Thank you for your cooperation, comments and positive observations. Should you have any questions please contact us.

Sincerely,

Cerro Metal Products Company

A handwritten signature in cursive script, appearing to read "J. Hendrick".

James P. Hendrick  
Vice President  
Engineering & Maintenance

JPH/dks

AR100316

**ATTACHMENT XIII**

**Memo from Art Saunders, Weston TAT, to EPA**  
**"WESTON AMENDMENT"**  
dated February 9, 1994

AR100317



5 Underwood Court  
Delran, NJ 08075

Phone: 609-461-4003  
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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION  
EPA CONTRACT 68-WO-0036

#### MEMORANDUM

TO: William D. Steuteville, OSC, EPA Region III  
Western Response Section

THRU: Mike Zickler, TATL, Region III *TWBS* TDD# 9308-06C  
PCS# 4830

FROM: Art Saunders, TAT Region III *AS*

SUBJECT: Trip Report Amendment  
Cerro Metal Products Site  
Bellefonte, Centre County, Pennsylvania

DATE: March 1, 1994

#### INTRODUCTION

Elevated levels of zinc and copper were discovered in sediment samples taken adjacent to and downstream of the Cerro, Inc. facility. Although the U.S. Environmental Protection Agency (EPA) does not currently have established peer reviewed action levels for these elements in stream sediments, significant concern was expressed by the Pennsylvania Department of Environmental Resources (PADER) and the Pennsylvania Fish and Boating Commission (PFBC) regarding the levels detected because they may have an adverse affect on aquatic life.

#### ANALYTICAL RESULTS/DISCUSSION

Background levels in Logan Branch, established by sampling sediment upstream of Cerro, Inc. (sample numbers 34, 35, 36, and 37), ranged from 24 to 129 parts per million (ppm) zinc (Zn) and 34 to 408 ppm copper (Cu). Elevated levels begin immediately adjacent to the parking lot south of Plant 4, shown in the results of sample number 33 (6,520 ppm Cu and 12,100 ppm Zn). Elevated levels (up to 278,000 ppm Zn and 124,000 ppm Cu) of these elements continue to appear in the sediment sample locations downstream, often consistent with elevated levels of lead and PCB's.

Spring Creek background levels were established by sampling upstream of the Logan Branch confluence. Zinc levels ranged from 47 to 48 ppm and copper from 19 ppm to 23 ppm (sample numbers 47 and 48). Downstream of the Logan Branch confluence, levels increased, ranging from 340 ppm to 420 ppm Zn and 210 ppm to 300 ppm Cu (sample numbers 49 and 50).

Roy F. Weston, Inc.

MAJOR PROGRAMS DIVISION

In Association with Foster Wheeler Enviresponse, Inc., Resource Applications, Inc., C.C. Johnson & Malhotra, P.C., R.E. Sarriera Associates, and GRB Environmental Services, Inc.

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Cerro Metal Products Site, Trip Report Amendment  
March 1, 1994  
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#### CONCLUSION

Copper and zinc were detected in sediments at levels above the fish ingestion guidelines established in the Emergency Removal Guidelines developed by the EPA Region III Technical Support Section, through the efforts of toxicologist Dr. Roy L. Smith. The fish ingestion guideline for copper is 500 ppm and for zinc is 2700 ppm. The copper and zinc levels may pose a threat to aquatic life.

AR100319